Miss Maria Phené.

1819.

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ARITHMETICAL QUESTIONS,

ON A NEW PLAN:

DESIGNED AS A

SUPPLEMENT

TO THE AUTHOR'S ENGRAVED

INTRODUCTION TO ARITHMETIC;

AND INTENDED TO ANSWER THE DOUBLE PURPOSE OF

ARITHMETICAL INSTRUCTION

AND

MISCELLANEOUS INFORMATION.

TO WHICH ARE SUBJOINED,

OBSERVATIONS ON WEIGHTS AND MEASURES,

WITH A COMPLETE COLLECTION OF ARITHMETICAL TABLES, AND EXPLANATORY REMARKS.

FOR THE USE OF YOUNG LADIES.

BY WILLIAM BUTLER,

TEACHER OF WRITING, ACCOUNTS, AND GEOGRAPHY, IN LADIES SCHOOLS, AND IN PRIVATE FAMILIES.

Numerorum notitia cuicunque primis ſaltem literis erudito neceſſaria eſt.
QUINTILIANI *de Inſtitutione Oratoria, lib.* I. *cap.* 10.

Arithmetic is of ſo general uſe, in all parts of life and buſineſs, that ſcarcely any thing is to be done without it. LOCKE's *Treatiſe on Education.*

He that requires the attention and application of children, ſhould endeavour to make what he propoſes as grateful and agreeable as poſſible. *Ibid.*

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BRITISH MUSEUM

PREFACE.

IT has been well remarked, that "it is *every man's duty* who comes into the world, to *uſe his beſt endeavours, however inſignificant*, to leave it as much wiſer, and as much better as he can." If this obſervation inculcates a general duty, it applies, with peculiar force, to perſons engaged in inſtruction by their profeſſion. Viewing the admonition in this obligatory light, I conſtantly endeavour to render the ſeveral parts of my profeſſional occupation as ſubſervient to the great end it aims to promote, as their nature will admit. Upon this plan moſt of the following queſtions have been compoſed, which, with ſeveral others of a ſimilar kind, but on a more confined ſcale, have been long diſtributed among my own ſcholars; and I have often had the ſatisfaction of finding them ſignally inſtrumental in inſpiring a deſire of more extenſive and circumſtantial information. The hope of rendering the queſtions more generally uſeful, and the deſire of removing the toil of frequent tranſcription, are my motives for the publication of them. I am nevertheleſs aware, that the accompliſhment of the former far more important view, depends greatly upon the exertions of the teacher. Should he, inheriting the apathy of Mrs. Shandy, eſteem it a matter of utter indifference "whether the world turns round or ſtands ſtill;" he will, of courſe, benefit his pupils *juſt as much* by the common ſums, as by any that could be ſelected for him. But other inſtructors, of more animation and zeal, will occaſionally require minute accounts of the hiſtorical, geographical, chronological, and other ſubjects, which had before ſerved as arithmetical themes. They will, perhaps, with the author, deem the time when the ſcholars are aſſembled in claſſes to repeat their tables (which, I ſhall take for granted, is always once a week) the beſt ſuited for promoting general emulation, and diſſeminating the deſired

knowledge among ſuch as are leſs diligent, or leſs advanced*. It is, however, confeſſed, that the method now propoſed, is impracticable in its *full extent*, except on the ſuppoſition that, during the maſter's abſence, the ſenior pupils have acceſs to books which treat more largely of the ſubjects recommended to their ſtudy. The mention of this circumſtance naturally leads me to advert to the great utility of a ſchool-library† for the uſe of thoſe ſcholars.

In the beſt-regulated ſeminaries vacant hours occur, many of which will be often waſted in the peruſal of pernicious, or at beſt,

* It will not, I truſt, be thought irrelative to the preſent ſubject to remark in this place, that beſides the method here recommended, of an attempt to diffuſe, in ſome ſmall degree at leaſt, general knowledge, through the medium of a particular branch of education, a writing-maſter has it, moreover, in his power, to introduce much miſcellaneous information into the ſchools which he attends, by means of a judicious choice of copies for the ſenior pupils*, particularly geographical ones, and ſuch as contain hiſtorical facts, biographical anecdotes, &c. relative to *places*, *rivers*, and the like. Theſe examples being tranſcribed by the ſcholar, committed to memory, the reſpective places ſought in an atlas (a purſuit which will always afford great entertainment) and then recited to the maſter, *at the time above ſpecified*, the pupil, withal, being enjoined to relate in what particular part of the map, ſection of the globe, &c. the places were found, will, in a ſhort time, and with very little additional trouble to either party, be found to furniſh even ſuch as do not learn geography ſcientifically, with a conſiderable portion of the knowledge in queſtion, and tend to impreſs, almoſt indelibly, upon the minds of thoſe who do, the moſt valuable part of the leſſons which they ſtatedly receive in this delightful ſtudy. Let me add, that this is not a mere ſpeculative, theoretical plan, but one whoſe practicability and ſucceſs have been long ſanctioned by my own experience.

N. B. It is meant, that the recital above mentioned ſhould include the copies which were written on both writing-days, to give the pupils the habit of retaining what they learn†.

* See the preface to my engraved Introduction to Arithmetic.

† The examples here recommended ſhould alſo be occaſionally diverſified with extracts from eminent moral writers and the beſt poets, agreeably to the obſervation of Quintilian, who ſays, "I would have the writing copy lines to conſiſt not of idle "ſentences, but of ſuch as ſhould inculcate ſome moral precept. The remembrance "will continue to old age, and the impreſſion on a tender mind may prove conducive "to a virtuous life. The ſayings, likewiſe, of illuſtrious men, and ſelect paſſages "out of poets, things very agreeable to children, may be learned by way of diver-"ſion."

De Inſtitutione Oratoria, lib. I. *cap.* 1.

† The following, it is apprehended, would be proper books for the formation of ſuch a collection. The hiſtories of Great-Britain and Ireland; of Greece and Rome, and of the moſt conſiderable European nations. Rollin's Ancient Hiſtory. Plutarch's Lives, tranſlated by Langhorne. Ruſſell's Hiſtory of Modern Europe. Biographical Dictionary, 12 vols. 8vo. laſt edit. Britiſh

beſt, frivolous novels*, if better books are not at hand. We are fully ſenſible with Dr. Knox, that, as a regular courſe of hiſtory would too much interfere with other parts of learning in the academies of young gentlemen, ſome of the time of recreation muſt be allotted to the attainment of that invaluable acquiſition. Females, in general, are exactly in the ſame predicament; and ſhould, therefore, be encouraged to devote a part

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Britiſh Biography, 12 vols. 8vo. Britiſh Plutarch, 8 vols. 12mo. Good Tranſlations of the Greek and Roman Claſſics, ſo ſtrongly and forcibly recommended to the peruſal of the ladies, by the late Mr Sheridan, in his lectures. Dr. Knox is alſo of opinion, that ladies, ſuch of them at leaſt as poſſeſs genius, ſhould be brought to as much knowledge of the Greek and Roman claſſics, as their ſituation and circumſtances will permit; and others, he ſays, "ſhould be well and early acquainted with the French and the "Engliſh claſſics.—Milton, Addiſon, and Pope, muſt be the ſtanding models "in Engliſh; Boileau, Fontenelle, and Vertot in French." The following are alſo proper books for ſuch a ſchool-library. Lempriere's Claſſical Dictionary. Mortimer's Student's Dictionary. Some of the beſt periodical publications. A large, but well choſen, collection of thoſe ſmall, but valuable tracts, expreſsly written for the improvement of youth, ſuch as Sandford and Merton, Evenings at Home, &c. The Cyclopædia. The Encyclopædia Britannica. The Spectator, Tatler, Guardian, Rambler, and Adventurer. Mrs. Rowe's Letters, moral and entertaining. Gay's Fables. Moore's Fables for the Female Sex. Cotton's Viſions in verſe. Maſon's Self-knowledge. Dr. Gregory's Father's Legacy to his Daughters. Mrs. Chapone's Letters. Ancient and Modern Atlaſſes. Dr. Prieſtley's Hiſtorical and Biographical Charts, &c. Dr. Watts, the counteſs of Sillery, and other eminent writers on education, recommend that maps, charts, hiſtorical prints, &c. ſhould be ſuſpended at length, in rooms appropriated to education.

To a library thus furniſhed, the parents of ſuch children, as are capable of benefiting by it, could not reaſonably object to ſubſcribe 10s. a year; a ſum, which, in a tolerably large ſchool, would, in no great length of time, completely reimburſe the governeſs, for the expence incurred by the firſt purchaſe of the books, and enable her to make occaſional additions.

* "The frivolity of the age, ſays an elegant writer, affords a very ſhameful encouragement to a ſpecies of literary compoſition called a NOVEL; which is nothing more than a *romance* taken from the manners of the times; and is, in general, worked up in ſuch a form, as to corrupt the minds of young women, and to enable old ones to murder that time of which they have ſo little remaining." It is, indeed, poſſible, for excellent ſentiments, and valuable knowledge, to be communicated in the form of a novel; but there are very few productions of this kind in our language; and, in general, it is much better for young perſons to employ ſuch time, as they can ſpare for that purpoſe, in the peruſal of real hiſtory, and of biographical accounts of perſons eminent for virtue and for knowledge. But among moral romances, and thoſe from which uſeful knowledge may be derived, may be mentioned the following. Telemachus. Robinſon Cruſoe. Dr. Johnſon's Raſſelas, Prince of Abyſſinia. Dr. Hawkeſworth's Almoran and Hamet. Hiſtory of David Simple. Julia, by Miſs Williams. Eugenius; or, Anecdotes of the Golden Vale. And the Hiſtory of Philip Waldegrave, lately publiſhed by T. EVANS.

of

of thoſe ſeaſons of relaxation to the acquiſition of a ſpecies of knowledge, which, however neceſſary and ornamental, the multiplicity of ordinary buſineſs renders unattainable at other times. It is hoped, that the following performance will not be thought altogether ill calculated to facilitate the deſirable end juſt mentioned; as many of the queſtions in it either create ſome new idea, convey ſome uſeful or pleaſing information, or *fix the date* of ſome memorable tranſaction; a circumſtance deemed of ſuch conſequence by Mrs. Chapone, that ſhe obſerves, "It is to little "purpoſe that you are able to mention a fact, if you cannot "nearly aſcertain the time in which it happened, which alone, "in many caſes, gives importance to the fact itſelf." The ſame judicious writer elſewhere remarks, not inapplicably to the general deſign of the following compilation, that "whatever "tends to embelliſh the underſtanding, and to furniſh the mind "with ideas to reflect upon when alone, or *to converſe upon in* "*company*, is certainly well worth the acquiſition."

But let us direct our attention principally to female education, which judicious obſervers have repreſented as ſo eminently conducive to the welfare of a ſtate. Now, in order to eſtimate the high obligations women of cultivated minds may confer on the community, let us, firſt, reflect with Rouſſeau, that "the edu-"cation of moſt conſequence, is that which is received in infan-"cy; and this firſt education belongs *inconteſtably* to the "WOMEN." The early part of education muſt, therefore, be one of the mother's moſt appropriate and moſt important duties.

To ſelect a few examples, among the ancients, eſpecially the Roman matrons, among whom the œconomical virtues, particularly indefatigable induſtry in the cultivation of the minds of their offſpring, continued longeſt to flouriſh. Cornelia, mother of the Gracchi; Aurelia, of Julius Cæſar; and Attia, of Auguſtus, ſuperintended the education of their reſpective children.—Among the Greeks, he of whom antiquity, ſanctioned by the teſtimony of an oracle, boaſts itſelf as of the wiſeſt of mortals, who is called by a modern author, "the Philoſophic Patriarch, and "the divineſt man, who ever appeared in the heathen world," even SOCRATES himſelf, derived conſiderable advantage from the converſation of Diotyma and Aſpaſia, women who are ſaid to have been excellently learned.

Why, demanded a Perſian ambaſſador, are women held in ſuch high eſtimation at Lacedæmon? Becauſe, replied the conſort of Leonidas, they only are competent to form men. To a Greek lady who diſplayed her jewels before Phocion's mother, and

and expreſſed a deſire of ſeeing her's, the latter introduced her CHILDREN, ſaying, *Theſe are my jewels and ornaments; I hope one day they will be all my glory.*

"Will the important buſineſs of DRESSING and going to "public places," aſks Dr. Knox, "prove ſo ſatisfactory to "mothers, a few years hence, as the conſciouſneſs of having "ſown the ſeeds of virtue, taſte, and learning, in the infant "boſoms of their own offspring?" Pitiable, indeed, is the mother, if ſhe deſerves the name, who knows not, that ſuch an office has ſweets beyond the giddineſs of pleaſure, the incenſe of admiration, and the eſſence of perfumes.

If, in the next place, we obſerve, how greatly the conduct of men is influenced by the other ſex; what effectual diſcouragement their influence gives to *vice* and *ignorance* in their male relatives and acquaintance; "that" as the elegant writer juſt quoted pertinently obſerves, "the dignity of female virtue, con-"ſiſtently ſupported, is better calculated than any moral leſſon, "to ſtrike confuſion and awe into the breaſt of the EMPTY and "ARTFUL VILLAIN; and that they may indeed become the "BEST REFORMERS:" theſe, with other obvious conſiderations, will abundantly evince the ſingular advantages neceſſarily reſulting from female improvement.

Should any doubts ſtill remain of the very exalted benefits, which, we contend, naturally and neceſſarily flow from female influence, let an appeal be made to matter of fact, I mean to ancient and modern hiſtory. To ſelect only two or three prominent and deciſive inſtances, out of the innumerable examples which the records of all nations ſupply in the utmoſt profuſion. Who is ignorant of the patriotic ardour, the invincible intrepidity, inſpired by the truly *laconic* admonition of the Spartan matrons to their huſbands and ſons, when, after the laſt embrace that preceded an expected conflict, they charged them "to return either WITH OR UPON THEIR SHIELDS*." In Dr. Gordon's Hiſtory of the American Revolution, what deciſive effects do we not frequently perceive reſulting from the exhortations of the DAUGHTERS OF LIBERTY, on that continent, to their near kindred and others, to extirpate tyranny, and plant

* It was the firſt and moſt inviolable law of war with the Spartans, never to flee, or turn their backs, whatever ſuperiority of numbers the enemy's army might conſiſt of; never to quit their poſt; *never to deliver up their arms*; in a word, either to conquer, or to die on the ſpot.—And ſometimes they that were ſlain were brought home *upon their ſhields.*

independence

independence in the ſoil which the baleful weed had ſo long and ſo lawleſsly appropriated. Our own country affords paſſages equally animating. Its annals will, in the perſons of the queens Boadicea*, Matilda†, Margaret‡, and Elizabeth§, as well as ladies of inferior rank, exemplify not only how forcibly females have exhorted, but how magnanimouſly they have achieved. Of the diſtinguiſhed ſucceſs of the ſame ſex in almoſt every department of ſtudy, even the moſt curſory notice is ſuperfluous, at leaſt in England, where we are all admiring witneſſes of the deep reflection, manly eloquence, refined ſentiment, and claſſic wit, which are diſplayed in many of their productions‖. What juſt appreciator, then, of the eminence of our fair countrywomen in every literary, not to ſay ſcientific, purſuit, will charge the author with the introduction of many queſtions irrelative to female education? will cenſure him for having borrowed moſt of his themes from ſubjects in which, at this very day, ſo many adult ladies excel, rather than compoſing queſtions in the common *routine* way?

In the mean time, without expecting a formal defence of the propriety of every individual queſtion in this collection, I am encouraged to hope, that the candid and the ſerious part of the public will approve of a deſign (however imperfectly it may have been executed) which has for its chief object a deſire to facilitate the path of ſcience, to allure the learner to mental exertions, to impreſs an early veneration and love for civil and religious LIBERTY, to exhibit the beauty of virtue, and the fatal conſequences of vice and profligacy; to hold up to the admiration of the riſing generation characters eminent for patriotiſm, benevolence, and general philanthropy; and to their deteſtation and abhorrence thoſe of deſpots, tyrants, and perſecutors; to inculcate rational and manly ideas of government, and to enforce

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* Boadicea, a celebrated Britiſh heroine, who being defeated and ill uſed by the Romans, poiſoned herſelf, A. D. 61.

† Matilda defeated king Stephen, and took him priſoner at the battle of Lincoln, in 1141.

‡ Margaret of Anjou, wife of Henry VI. ſignalized herſelf, by heading her troops, in ſeveral battles, againſt the houſe of York.

§ Every hiſtory of England is enriched with Elizabeth's ſpeech to the troops which ſhe had encamped at Tilbury-Fort, to oppoſe the expected Spaniſh invaſion.

‖ To ſuch of our young readers as may not be acquainted with the reſpective merits and names of our moſt celebrated female writers, we earneſtly recommend the peruſal of an inſtructive and entertaining performance entitled "DIALOGUES concerning the LADIES," ſold by C. DILLY, in the *Poultry*, and T. EVANS, in *Paternoſter-Row*.

juſt

juſt notions concerning the inferior orders of ſociety. And I am the more emboldened to expect the public approbation on this occaſion, from the conſideration, that in my endeavours to promote thoſe prime views, no new burthen has been impoſed, or any very conſiderable encroachment made on the time of the pupil, the information in queſtion being incorporated with a branch of education in which ALL *muſt* be converſant.

The title announces this ſmall treatiſe to be deſigned for the uſe of YOUNG LADIES, becauſe the author's department of teaching is *ſolely* confined to them. Perhaps, however, it may be thought equally adapted to the other ſex, when it is conſidered that a youth, capable of working through the *whole* book, and of delivering a ſatisfactory account of each operation, would be qualified for almoſt any of the common concerns of buſineſs. Vulgar and decimal fractions, and the extraction of roots are of little utility, except in a few particular employments; and as to intereſt, profit and loſs, barter, fellowſhip, exchange, and ſome other rules which have diſtinct heads in the ordinary treatiſes of arithmetic, they all belong to the rule of three, and the queſtions in each may be worked with the greateſt facility, by any one well verſed in that and practice.

The generality of the queſtions being too long for the learner's tranſcription, they have all been numbered. Accordingly, the number, with a word or two of the ſum (for inſtance, No. 1, Chronology, No. 2, Solar Syſtem) will be a ſufficient reference to the operation at large, at any future period. The pupil, however, if ſufficiently qualified in writing, ſhould by no means omit copying the whole proceſs of each ſum in a common ſum-book. To prevent the poſſibility of plagiariſm, and to perfect the ſtudents completely in this important branch of education, they ſhould, on preſenting a ſum, be conſtantly made to aſſign a reaſon for every part of the operation, and, moreover, occaſionally be exerciſed with a variety of *manuſcript* ſums in each rule.

WILLIAM BUTLER.

Oxford-Court, Cannon-Street,
Auguſt 3, 1795.

ADVER-

ADVERTISEMENT.

Publiſhed by the ſame Author, for the Uſe of YOUNG LADIES.

AN engraved INTRODUCTION to ARITHMETIC, conſiſting of examples in the four principal rules, and a collection of tables: deſigned to facilitate the progreſs of young beginners, and to diminiſh the labour of the tutor.

Ready for the Preſs, and ſpeedily to be Publiſhed.

An Eaſy INTRODUCTION to the USE of the GLOBES, in which will be incorporated ſome Miſcellaneous Matter which the Author has found to be entertaining and uſeful to his own pupils.

The above little manual will be immediately ſucceeded by a ſmall tract of Scripture Geography, with maps: to which will be annexed, a brief ſketch of the different principles maintained by the chief Chriſtian ſects, and other introductory information.

On the completion of this laſt-mentioned work, which is already nearly prepared for the preſs, the Author means to reſume the printing of his larger geographical and biographical performance (advertiſed in his Introduction to Arithmetic) which will be accompanied with a general ATLAS.

ADDRESS TO THE PUBLIC.

MR. BUTLER, Teacher of WRITING, ACCOUNTS, and GEOGRAPHY, reſpectfully informs his friends and the public, that, having frequently found himſelf prevented, by prior engagements, from attending LADIES SCHOOLS and PRIVATE FAMILIES, which had honoured him with applications for that purpoſe, he has engaged as partner, Mr. THOMAS BOURN, Jun. of Mare-Street, HACKNEY. This connection will not only better enable Mr. B. to avail himſelf of the kind partiality of his friends, but, by introducing to their acquaintance, will recommend to their protection, a much-eſteemed pupil of exemplary moral conduct, and great profeſſional ability, with the happy talent of communicating inſtruction, united to indefatigable aſſiduity and zeal in the diſcharge of his engagements.

ARITH-

ARITHMETICAL QUESTIONS.

ARITHMETIC

IS a ſcience, which explains the properties of numbers, and ſhows the method or art of computing by them. It has five principal rules, namely, NUMERATION, ADDITION, SUBTRACTION, MULTIPLICATION, and DIVISION; and theſe are the foundation of all arithmetical operations.

We have very little information reſpecting the origin and invention of arithmetic; hiſtory neither fixes the author of it, nor the time of its diſcovery. Some imagine, that it muſt have taken its riſe from the introduction of commerce, and aſcribe its invention to the Tyrians. That, however, it had a much earlier introduction into the world, even before the deluge, we may gather from the following expreſſion in the prophecy of Enoch, as mentioned by Jude: "Behold the Lord cometh with ten thouſand of his ſaints." This ſhows that, even at that time, men had ideas of very high numbers, and computed them alſo in the ſame manner that we do, namely, by tens. The directions alſo given to Noah, concerning the dimenſions of the ark, leave us no room to doubt that he had a knowledge of numbers, and likewiſe of meaſures. When Rebecca was ſent away to Iſaac, Abraham's ſon, her relations wiſhed that ſhe might be the mother of thouſands of millions; and if they had been totally unacquainted with the rule of multiplication, it is impoſſible to conceive that they could have formed ſuch a wiſh. It appears, therefore, certain, that the four fundamental rules of arithmetic were known, in ſome nations, in very early ages of the world; though at what time they were diſcovered or invented cannot now be exactly aſcertained.

The Greeks were the firſt European nation among whom arithmetic arrived at any great degree of perfection, and they made uſe of the letters of the alphabet to repreſent their numbers. The Romans followed a like method, and, beſides characters for each rank of claſſes, they introduced others for five, fifty, and five hundred. Their method is ſtill uſed for diſtinguiſhing the chapters of books and ſome other purpoſes. From the Romans arithmetic came to us; but the

common arithmetic among us, which makes uſe of the ten Arabic figures 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, was utterly unknown to the Greeks and Romans, and came into Europe from the Arabians by way of Spain. The Arabians are ſaid to have received them from the Indians. This moſt perfect method of ſupputation is ſuppoſed to have taken its origin from the ten fingers of the hand, which were made uſe of in computations before arithmetic was brought into an art. The Eaſtern miſſionaries aſſure us, that to this day the Indians are very expert at computing on their fingers without any uſe of pen or ink. And the natives of Peru in South America, who do all by the different arrangement of grains of maiſe, are ſaid to excel any European both for certainty and diſpatch with all his rules.

NUMERATION

TEACHES to read or write any propoſed ſum, and to find the different value of any given number of figures.

EXAMPLES.

No. 1. CHRONOLOGY. Chronology is the art of meaſuring and diſtinguiſhing time paſt, and referring each event to the proper year. Its uſe is very great, being called one of the eyes of hiſtory. Epocha, in chronology, is a term or fixed point of time, whence ſucceeding years are numbered or computed. That principally regarded among Chriſtians is the epocha of the nativity of our Saviour; that of the Mahometans the hegira; that of the Jews the creation of the world; that of the ancient Greeks the Olympiads; that of the Romans the building of their city, and that of the ancient Perſians and Aſſyrians, the epocha of Nabonaſſar king of Babylon, its inſtitutor, 746 years B. C. The building of Rome took place 753 years B. C. The Olympics or Olympic games, ſo famous among the Greeks, were inſtituted in honour of Jupiter. They were holden at the beginning of every fifth year, on the banks of the Alpheus, near Olympia, to exerciſe their youth in five kinds of combats. Thoſe who were conquerors in theſe games were highly honoured by their countrymen. The prize contended for was a crown made of a peculiar kind of wild olive, appropriated to this uſe. The Olympiads ended with the year of Chriſt 440, making in all 364. The hegira, or flight of the impoſtor Mahomet, the founder of the Mahometan religion, from Mecca to Medina, happened A. D. 622. The computation of years from the birth of Chriſt did not begin to be uſed in hiſtory till the year 748. The current year of the Chriſtian æra is 1795.

N. B. A. M. denote Anno Mundi, the year of the world; U. C. Urbe conditâ (ab, from, being underſtood) the building of the city, i. e. of Rome; B. C. Before Chriſt; A. C. Ante Chriſtum, before Chriſt; A. D. Anno Domini, in the year of our Lord.

No. 2.

No. 2. SOLAR SYSTEM. By the ſolar ſyſtem is meant the order and diſpoſition of the ſeveral heavenly bodies, which revolve round the SUN, as the centre of their motion, and receive from it their light and heat. Theſe celeſtial ſpheres conſiſt of planets and comets. Under the denomination of planets are compriſed Mercury, Venus, the Earth, Mars, Jupiter, Saturn, and the Georgium Sidus.

Mercury is ſaid to be about 37,000,000 of miles from the ſun; Venus 68,000,000; the Earth 95,000,000; Mars 145,000,000; Jupiter 495,000,000; Saturn 908,000,000; and the Georgium Sidus about 1,800,000,000 of miles diſtant from the ſun.

The hourly motion of Mercury in its orbit is about 109,000 miles; Venus 80,000; the Earth 68,000; Mars 55,000; Jupiter 29,000; Saturn 22,000. Saturn is ſuppoſed to be more than 90 times as big as the globe which we inhabit. According to the ſame calculation, Jupiter is above 200 times larger than the earth.

It has been remarked, that the planets, and all the innumerable hoſt of heavenly bodies, perform their courſes and revolutions with ſo much certainty and exactneſs, as never once to fail; but, for almoſt 6000 years, come conſtantly about to the ſame period, without the difference of the hundredth part of a minute.

It is alſo obſerved by Mr. Hervey, that "it may ſeem unaccountable, to an unlearned reader, that aſtronomers ſhould ſpeak ſuch amazing things, and ſpeak them with ſuch an air of aſſurance, concerning the diſtances and magnitudes, the motions and relations of the heavenly bodies. I would deſire, continues the ſame ingenious writer, ſuch a perſon to conſider the caſe of ECLIPSES, and with what exactneſs they are calculated. They are not only foretold, but the very inſtant of their beginning is determined. The preciſe time of their continuance is aſſigned; aſſigned almoſt to the nicety of a moment, and what is ſtill more ſurpriſing, for the ſpace of hundreds or thouſands of years to come. As this is a matter of fact abſolutely indiſputable, it is alſo a very obvious yet ſolid demonſtration, that the principles of ſcience, on which thoſe calculations proceed, are not merely conjecture, or precarious ſuppoſition, but have a real, a certain foundation in the nature and conſtitution of things."

No. 3. COMETS. Comets are defined to be ſolid compact bodies, like other planets, and regulated by the ſame laws of gravity. They move about the ſun in very eccentric orbits, and are of a much greater denſity than our earth; for ſome of them are heated, in every period, to ſuch a degree as would vitrify or diſſipate any ſubſtance known to us. Comets are always attended with long tranſparent trains, or tails, iſſuing from that ſide of them which is turned away from the ſun: that which appeared in 1680 drew after it a tail of fire that was computed to be 80,000,000 of miles in length. There are ſuppoſed to be 450 comets belonging to the ſolar ſyſtem; but the periods of three of them only are known with any certainty. Theſe return at intervals of 75, 129, and 575 years. Dr. Halley, at firſt, ſuppoſed the comets of 1532 and 1661, to be one and the ſame; and though he afterwards ſeemed to retract this opinion, it has been generally adopted by

by aſtronomers. They accordingly expected its return, making an allowance for its retardation, in 1789. Agreeably to this conjecture Dr. Maſkelyne had calculated that it might be certainly expected before the 27th of April in that year. In this inſtance, however, the expectation of aſtronomers has been diſappointed; and it remains for future obſervation to aſcertain the periodical return of this eccentric planet.

The comet which appeared in 1680, travelled, when neareſt to the ſun, with the amazing velocity of 880,000,000 of miles in an hour. Its greateſt diſtance from the ſun is computed at 11,200,000,000 of miles, and its leaſt diſtance at 490,000, at which time it is ſaid to be 2000 times hotter than red hot iron. This comet approaches, in one part of its orbit, very nearly to the orbit of our earth; ſo that, according to ſome eminent philoſophers, it may, in ſome future revolutions, approach near enough to have very conſiderable, if not fatal effects upon it.

No. 4. FIXED STARS. Theſe are ſo called, becauſe they always maintain the ſame poſition, or relative diſtance from each other; their apparent diurnal motion being cauſed ſolely by the earth's turning on its axis.

Mathematicians aſſert, that Syrius, or the Dog Star, is the neareſt to us of all the fixed ones; and they compute its diſtance from our earth at 2,200,000,000,000 of miles. They maintain that a ſound would not reach our earth from Syrius in 50,000 years; and that a cannon-ball, flying with its uſual velocity of 480 miles an hour, would conſume 523,211 years in its paſſage thence to our globe. The fixed ſtars are ſuppoſed to be made for the ſame purpoſes as the ſun; that they may beſtow light, heat, and vegetation, on a certain number of inhabited planets.

> World beyond world, in infinite extent,
> Profuſely ſcatter'd o'er the blue immenſe.
>
> THOMSON.

No. 5. OF THE INVENTION OF ALPHABETICAL LETTERS, AND THE ART OF WRITING. Writing is the art of conveying our ideas to others by letters, or characters viſible to the eye. To whom we are indebted, for this admirable and uſeful diſcovery, does not appear. Many learned men have ſuppoſed, that the alphabet was of divine origin, and ſeveral writers have aſſerted, that letters were firſt communicated to Moſes by God himſelf; whilſt others have contended, that the decalogue was the firſt alphabetic writing. Again, many authors have decided in favour of the ancient inhabitants of Egypt.

> "There firſt the marble learn'd to mimic life,
> The pillar'd temple roſe, and pyramids
> Whoſe undecaying grandeur laughs at time;
> *Birth-place of letters*; where the ſun was ſhown
> His radiant way, and heavens were taught to roll."

Others

Others have maintained the claim of the Phœnicians to the invention of letters.

> Phœnicians firſt, if ancient fame be true,
> The ſacred myſtery of letters knew:
> They firſt, by notes in various lines deſign'd,
> Expreſs'd the meaning of the thinking mind;
> The power of words by figures rude convey'd,
> And uſeful ſcience everlaſting made.
>
> ROWE'S Lucan's Pharſalia.

The Chaldeans have alſo had ſeveral learned advocates, who have attributed the invention of letters to the patriarch Abraham; and Sir Iſaac Newton, in particular, admits that letters were known in the Abrahamic time for ſome centuries before Moſes.

Mr. Gilbert Wakefield is one of thoſe learned writers, who have maintained, that the art of alphabetical writing appears to be of divine origin; and in his ingenious Eſſay on this ſubject, he obſerves, that the Phœnicians, and their coloniſts the Carthaginians, ſpoke the *Hebrew* language, or a dialect ſcarcely varying from the original; and that all the languages in uſe among men, which have been conveyed in *alphabetical characters*, were the languages of people, connected ultimately, or, immediately, with thoſe who have handed down the earlieſt ſpecimens of writing to poſterity, viz. the authors of the five firſt books of the Old Teſtament, which are acknowledged by all to be, not only the moſt ancient compoſitions, but alſo the moſt early ſpecimens of alphabetical writing, at preſent exiſting in the world.

Mr. More, in his Eſſay upon the Invention of Writing, informs us, that the various combinations of the 24 letters, and none of them repeated twice, will amount to 620,448,401,733,239,439,360,000. But Clavius, the Jeſuit, who alſo computed theſe combinations, makes the numbers to be but 5,852,616,738,497,664,000.

No. 6. DIFFICULTY OF APPREHENDING HIGH NUMBERS. As very high numbers are ſomewhat difficult to apprehend, we naturally fall on contrivances to fix them in our minds, and render them familiar: but notwithſtanding all the expedients we can contrive, our ideas of high numbers are ſtill imperfect, and generally far ſhort of the reality; and though we can perform any computation with exactneſs, the anſwer we obtain is often incompletely apprehended.

It may not be amiſs to illuſtrate, by a few examples, the extent of numbers which are frequently named without being attended to. If a perſon employed in telling money reckon an hundred pieces in a minute, and continue at work ten hours each day, he will take ſeventeen days to reckon 1,000,000; a thouſand men would take 45 years to reckon 1,000,000,000,000. If we ſuppoſe the whole earth to be as well peopled as Great-Britain, and to have been ſo from the creation, and that the whole race of mankind had conſtantly ſpent their time in telling a heap conſiſting of 1,000,000,000,000,000,000,000,000 of pieces, they would hardly have yet reckoned a thouſandth part of that quantity. *Ency. Brit. Art. Arithmetic.*

ADDITION

TEACHES to add ſeveral ſums together into one whole or total.

EXAMPLES.

No. 7. CREATION OF THE WORLD. Man, as the pious Hervey remarks, being greatly beloved by his Creator, is conſtituted maſter of this globe. The fields are his exhauſtleſs granary. The ocean his vaſt reſervoir. The animals ſpend their ſtrength to diſpatch his buſineſs; reſign their clothing, to repleniſh his wardrobe; and ſurrender their very lives to provide for his table.

Man, more divine, is maſter of all theſe,
Lord of the wide world, and wide wat'ry ſeas,
Indued with intellectual ſenſe and ſoul,
Of more pre-eminence than fiſh and fowl.

SHAKESPEARE.

For him kind nature wakes her genial pow'r,
Suckles each herb, and ſpreads out ev'ry flow'r;
Annual for him, the grape, the roſe renew
The juice nectareous, and the balmy dew;
For him the mine a thouſand treaſures brings;
For him, health guſhes from a thouſand ſprings.

POPE.

Being thus diſtinguiſhed by the goodneſs of the Almighty, let us diſtinguiſh ourſelves by our gratitude. Let it be our undivided aim, to glorify him, who has been at ſo much expence to gratify us: and, in particular, let ingenuous youth hence learn "to remember their Creator in the days of their youth."

According to moſt chronologers the world was created 4004 years B. C.; how old is it this preſent year 1795? *Anſ.* 5799 years.

No. 8. DELUGE. The inhabitants of our earth, excepting Noah and his family, were deſtroyed for their wickedneſs by a flood. This direful event is deſcribed in the 6th, 7th, and 8th chapters of Geneſis; Noah being, as the ſacred hiſtorian relates, "a juſt man and perfect in his generation, found grace in the eyes of the Lord," and was preſerved in the ark, as were alſo his family, and a certain number of beaſts and birds to repleniſh the earth.

Of ev'ry beaſt, and bird, and inſect ſmall
Came ſev'ns, and pairs, and enter'd in, as taught
Their order: laſt the ſire, and his three ſons
With their four wives.
Mean time down ruſh'd the rain
Impetuous, and continu'd 'till th' earth
No more was ſeen; the floating veſſel ſwum

Uplifted,

Uplifted, and ſecure with beaked prow
Rode tilting o'er the waves; all dwellings elſe
Flood overwhelm'd, and them with all their pomp
Deep under water roll'd.

MILTON.

Upon the aſſuaging of the waters, the ark "faſt on the top of ſome high mountain fixed;" and Noah went forth and built an altar to Jehovah, receiving from the Lord, at the ſame time,

A covenant never to deſtroy
The earth again by flood, nor let the ſea
Surpaſs his bounds, nor rain to drown the world.

MILTON.

The token of this covenant was the "triple colour'd bow," which, it is ſuppoſed, did not appear before the deluge, the earth prior to that æra being watered daily by a thick *miſt*, and conſequently there could be naturally no *rainbow*, which is made by the refraction of the ſun's rays in the drops of falling *rain;* a diſcovery we owe to the immortal Newton.

Mean time refracted from yon' eaſtern cloud,
Beſtriding earth, the grand ethereal bow
Shoots up immenſe, and every hue unfolds,
In fair proportion running from the red,
To where the violet fades into the ſky.
Here awful NEWTON! the diſſolving clouds
Form, fronting on the ſun, the ſhow'ry priſm,
And to the ſage-inſtructed eye unfold
The various twine of light, by thee diſcloſed
From the white-mingling maze.

THOMSON.

As the antediluvian world periſhed by the flood, ſo ſhall the preſent world, which we inhabit, be deſtroyed by fire; and ſome eminent aſtronomers have imagined, that a comet will be the inſtrument of this direful conflagration, when, as Shakeſpeare emphatically expreſſes it,

The cloud-capt towers, the gorgeous palaces,
The ſolemn temples, the great globe itſelf,
Yea, all which it inherit, ſhall diſſolve;
And, like the baſeleſs fabric of a viſion,
Leave not a wreck behind.

Or, agreeably to language ſtill more awful, *The heavens being on fire ſhall be diſſolved, and the elements ſhall melt with fervent heat.* 2 Peter iii. 12.

The deluge happened 2356 years B. C.; how long is that ago this preſent year 1795? *Anſ.* 4151 years.

No. 9. THE CALLING OF ABRAHAM*. Abraham, the father and ſtock whence the faithful ſprung, was the ſon of Terah. He was

* Abraham denotes a father of a great multitude: his former name, Abram, an high father.

deſcended

deſcended from Noah by Shem, and was born in the city of Ur, in Chaldea. He died at the age of 175 years, and was interred in the cave of Machpelah, near the body of Sarah his firſt wife. Machpelah was near Hebron, which was about twenty miles ſouthward of the ſpot where the city of Jeruſalem was afterwards built.

Abraham is ſaid to have been well ſkilled in many ſciences, and to have written ſeveral books. Joſephus informs us, that he taught the Egyptians arithmetic and geometry; and, according to other writers, he inſtructed the Phœnicians, as well as the Egyptians, in aſtronomy. This illuſtrious patriarch, who, for his faith, piety, and obedience, was honoured with the high titles of the "father of the faithful, and the friend of God," was called to be the father of a choſen people 1921 years B. C.

Him God the moſt High vouchſafed
To call by viſion from his father's houſe
His kindred and falſe gods, into a land
Which he did ſhow him, and from him did raiſe
A mighty nation, and upon him ſhower
His benediction, ſo that in his ſeed
All nations of the earth were bleſs'd.

MILTON.

Many of the inhabitants of the Eaſt-Indies, not only Chriſtians and Mahometans, but even the Indians and Infidels, have a traditionary knowledge of the patriarch Abraham, and ſpeak highly in commendation of him.

How long has the calling of Abraham preceded the preſent year 1795? *Anſ.* 3716 years.

No. 10. SKETCH OF THE HISTORY OF MOSES*. Moſes, the great Jewiſh legiſlator, was the ſon of Amram and Jochebed, of the tribe of Levi. He was born in Egypt, in the N. E. part of Africa. In conſequence of a murderous edict iſſued by the tyrant and perſecutor Pharaoh†, king of that country, he was, ſhortly after his nativity, expoſed upon the river Nile, in an ark of bulruſhes‡. From this perilous ſituation he was reſcued by the humane daughter of the mercileſs deſpot, who "took him up, and nouriſhed him for her own ſon, and he became learned in all the wiſdom of the Egyptians, and was mighty in words and in deeds." See Exodus ii. and Acts vii. 21, 22.

About the 80th year of his age, Moſes, after performing a number of miracles in Egypt, quitted that kingdom with 600,000 Iſraelites, beſides children, who all miraculouſly paſſed through the RED SEA,

* The name Moſes imports being drawn up, or taken out of the water. Ex. ii. 10.

† As juſtice ſhould be done even to a tyrant, we ſhall quote a remark of the celebrated Dr. Jortin's reſpecting Pharaoh. "This deſpot, ſays that learned writer, tyrant and perſecutor as he was, never compelled the Hebrews to forſake the religion of their fathers, and to adopt that of the Egyptians. Such improvements in perſecution, adds that great man, were reſerved for *Chriſtians!!!*"

‡ By bulruſhes is ſuppoſed to be meant the papyrus, a reed which grew in the river Nile, with which they made ſhips or ſloops. See Iſaiah xviii. 2.

Whoſe

Whoſe waves o'erthrew
Buſiris * and his Memphian † chivalry
While with perfidious hatred they purſued
The ſojourners of Goſhen ‡, who beheld
From the ſafe ſhore their floating carcaſes
And broken chariot-wheels §.

MILTON.

Having thus experienced the divine interpoſition, the Iſraelites traverſed "the wild deſert" and arrived at Mount SINAI, where

GOD himſelf
In thunder, lightning, and loud trumpets ſound,
Ordained them laws; part ſuch as appertain
To civil juſtice, part religious rites
Of ſacrifice, informing them, by types
And ſhadows, of that deſtin'd ſeed to bruiſe
The ſerpent, by what means he ſhould achieve
Mankind's deliverance.

MILTON.

In Moſes, ſays Dr. Hunter (Sacred Biography) we have a bright example of genuine patriotiſm. That moſt reſpectable quality appeared in him early, and ſhone moſt conſpicuouſly at laſt. When he was come to years, he refuſed to be called the ſon of Pharaoh's daughter; chooſing rather to ſuffer affliction with the people of God, than to enjoy the pleaſures of ſin for a ſeaſon. For Iſrael's ſake, he was willing to encounter a thouſand dangers, to endure a thouſand hardſhips. For them he braved the wrath of a king; for them he laboured, faſted, prayed; in their ſervice was his life ſpent, and his dying breath was poured out in pronouncing bleſſings upon them.

The compoſitions of Moſes appear to be the oldeſt writings in the world.

He firſt taught the choſen ſeed,
In the beginning how the heav'ns and earth
Roſe out of chaos.

MILTON.

Moſes received the decalogue 1491 years B. C. How long is that ago this preſent year 1795? *Anſ.* 3286 years.

No. 11. SIEGE OF TROY. Troy was ſituated on a ſmall eminence near mount Ida in Aſia, at the diſtance of about four miles from the N. E. part of the Archipelago. The ſiege of this place, which is

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* Buſiris is a name which was borne by many Egyptian princes.

† Memphis was a celebrated town of Egypt on the Weſtern banks of the Nile; in its neighbourhood the famous pyramids were built.

‡ Goſhen was the beſt and moſt fertile portion in the diſtrict of Rameſis, which bordered upon the banks of the Nile near Heliopolis. It was given by Joſeph to his father and brethren. Gen. xlvi. 11.

§ In commemoration of this ſignal deliverance, Moſes compoſed a ſong (ſee Exodus ch. xv.) which has been ſaid to be the moſt ancient piece of poetry in the world; and is juſtly admired for its ſublimity.

the moſt famous of any among the ancients, was undertaken by the Greeks, to recover Helen, whom Paris, the ſon of Priam king of Troy, had carried away from the houſe of Menelaus her huſband, king of Sparta. All Greece combined to revenge the cauſe of this prince, and Agamemnon, brother of the injured Menelaus, was choſen general of the confederated forces. After the ſiege of Troy had been carried on for ten years*, it was taken by the Greeks, who immediately deſtroyed it by conflagration, and put ſuch of the inhabitants, as could not eſcape by flight, to the ſword, or carried them away captive. It is not certain whether Troy was ſubdued by force, ſtratagem, or treachery. All agree that it was taken by night, and the poets maintain that the Greeks made themſelves maſters of it by artifice. They are ſaid to have made a wooden horſe capable of containing a conſiderable number of armed men; this they filled with the choiceſt of their army, and then pretended to raiſe the ſiege; upon which the credulous Trojans, at the inſtigation of one SINON, a crafty, perjured Greek, brought this fatal animal, which the author of Hudibras humorouſly ſtyles,

The Trojan mare in foal with Greeks,

into the city; and in the night the encloſed heroes ruſhed out, and opened the gates to their companions, who had returned from the place of their confinement. The wooden horſe was fabricated by EPEUS.

The ſacking of Troy happened 1184 years B. C. How long is that ago this preſent 1795? *Anſ.* 2979 years.

N. B. The misfortunes of Troy have furniſhed the ſubject of the two moſt perfect epic poems in the world, namely, the ILIAD and the ODYSSEY, written by HOMER, a celebrated Greek, who flouriſhed about 340 years after the ſiege, and is commonly accounted a native of Smyrna.

The ſubject of the Iliad is the wrath of Achilles, which proved ſo fatal to the Greeks, when beſieging Troy. The Odyſſey recounts the voyages and adventures of Ulyſſes, after the ſacking of that city. The ſame intereſting ſtory has likewiſe ſupplied ſome of the moſt ſplendid materials for Virgil's admirable poem of the ÆNEID, written in honour of Æneas.

Alexander of Macedon, commonly ſtyled the Great, was ſo fond of Homer, that he generally placed his compoſitions under his pillow, with his ſword; and he carefully depoſited the Iliad in one of the richeſt caſkets of Darius, king of Perſia, whom he had conquered, obſerving, that the moſt perfect work of human genius ought to be preſerved in a box the moſt valuable and precious in the world.

HOMER, VIRGIL, and MILTON, are conſidered as the three greateſt poets that ever lived.

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* The ſiege of Tyre, by Nebuchadnezzar, laſted 13 years; and that of Azoth, by Pſammeticus, 29 years.

Three

Three poets in three diſtant ages born,
Greece, Italy, and England did adorn.
The firſt in majeſty of thought ſurpaſs'd,
The next in gracefulneſs: in both the laſt.
The force of nature could no farther go,
To make a third, ſhe join'd the other two.

DRYDEN.

The late Dr. Johnſon, though he was ſtrongly prejudiced againſt Milton on account of his political opinions, yet thought ſo highly of his talents, and of his Paradiſe Loſt, that he ſays of him, "He was born for whatever is arduous; and his work is not the greateſt of heroic poems, only becauſe it is not the firſt;" evidently ranking him above Virgil.

No. 12. JERUSALEM TAKEN BY NEBUCHADNEZZAR. NEBUCHADNEZZAR, king of Babylon, took the city of Jeruſalem* by ſtorm, and made a terrible ſlaughter of the inhabitants. Zedekiah's two ſons were, by Nebuchadnezzar's orders, killed before their father's face, with all the nobles and principal men of Judah. Zedekiah himſelf had both his eyes put out, was loaded with fetters, and carried to Babylon, where he died in priſon. The city and temple were pillaged and burnt, and all the fortifications demoliſhed 588 years B. C. How long is that ago this preſent year 1795? *Anſ.* 2383 years.

N. B. It was in the reign of Nebuchadnezzar that the three young Hebrews SHADRACH, MESHACH, and ABEDNEGO, who with an invincible courage refuſed to comply with the king's impious commands reſpecting the worſhip of the golden image, were miraculouſly preſerved in the midſt of the burning fiery furnace†. Great numbers of the Jews had been carried captive to Babylon ſome years before the deſtruction of Jeruſalem‡. Among the captives were DANIEL and EZEKIEL.

No. 13. BABYLON TAKEN BY CYRUS. The taking of Babylon is one of the greateſt events in ancient hiſtory, and the principal circumſtances with which it was attended, were long before minutely foretold in the Holy Scriptures. The pious Rollin, in his hiſtory of Cyrus§, has remarked on this occaſion, "that nothing can be more proper to raiſe a profound reverence in us for religion, and to give us a great idea of the DEITY, than to obſerve with what exactneſs he reveals to his prophets the principal circumſtances of the beſieging and taking of this famous city, not only many years, but ſeveral ages before it happened."

Prophecy, as Dr. Rutherford obſerves, is a permanent miracle on earth: a voice which ſpeaks from heaven, and proclaims its author to all nations and ages.

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* 2 Kings xxv. 1, &c. Jer. xxxix and lii. † Dan. iii. ‡ 2 Kings xxiv. 10, &c.
§ Ancient Hiſt. vol. ii.

The

The predictions reſpecting the total ruin and deſtruction of this proud and triumphant capital, which had ſo long oppreſſed the earth, and ſhed the blood of its inhabitants, may be read in the writings of Jeremiah, Daniel, and particularly Iſaiah, who has compoſed an ode on the occaſion, which, as the ingenious writer juſt quoted remarks, for elegance of diſpoſition, ſublimity of ſentiment, boldneſs of colouring, beauty and force of expreſſion, ſtands unrivalled among all the monuments of genius which antiquity has tranſmitted to modern times.

The prophetic denunciations were executed upon Babylon (which was the capital of the Aſſyrian empire, and ſituated upon the river Euphrates) by Cyrus, 538 years B. C. juſt 50 years after Nebuchadnezzar had deſtroyed the city of Jeruſalem and her temple. How long is that ago this preſent year 1795? *Anſ.* 2333 years.

No. 14. DESTRUCTION OF DIANA'S TEMPLE. The celebrated temple of Diana, at Epheſus, in Aſia, on the confines of the Archipelago, was reckoned one of the wonders of the world. This famous building was erected at the common charge of all the Aſiatic ſtates, and CTESIPHON was the chief architect. Pliny ſays that 220, but others aſſert that 400 years were employed in completing it. The riches which were in the temple were immenſe, and the goddeſs to whom it was dedicated was worſhipped with the moſt awful ſolemnity. This ſtupendous ſtructure was conſumed by conflagration the night of Alexander's nativity, by an obſcure individual named EROSTRATUS, who confeſſed on the rack, that the ſole motive which had prompted him to deſtroy ſo magnificent an edifice, was the deſire of tranſmitting his name to future ages.

Eroſtratus ſet fire to the temple of Diana 356 years B. C. How long did the conflagration of this temple precede the current year 1795? *Anſ.* 2151 years.

N. B. The wonders of the world, popularly ſo called, were the Egyptian pyramids; the mauſoleum erected by Artemiſia for her huſband Mauſolus; the temple of Diana; the coloſſus at Rhodes; the walls and hanging gardens of Babylon; the ſtatue of Jupiter Olympus; and the pharos of Ptolemy Philadelphus. Inſtead of two of theſe ſome reckon the palace of Cyrus, and the labyrinth of Crete.

No. 15. SIEGE OF SAGUNTUM. The unfortunate Saguntum was ſituated on the ſpot where Morviedro in Valencia, Spain, now ſtands. This brave city is famous in hiſtory for the dreadful ſiege it ſuſtained 219 years B. C. when the heroic citizens, after exerting incredible acts of valour, choſe to be buried in the ruins of their city rather than ſurrender to HANNIBAL, the famous Carthaginian general. How long has that tragical event preceded the preſent year 1795? *Anſ.* 2014 years.

No. 16. SIEGE OF NUMANTIA. Numantia was ſituated near Soria in Old Caſtile, Spain, and is celebrated for the long war which it maintained againſt the Romans. Scipio Africanus beſieged this famous

mous city 133 years B. C. when the magnanimous inhabitants, after a long conflict againſt the extremity of famine and the deſpair of ſuccour, ſignalized their love of LIBERTY by ſetting fire to their houſes, and periſhing in the flames.

" A patriot-people, who death's terrors ſcorn'd:
" The willing victims to a virtuous name,
" All periſh greatly, not to live with ſhame.
" Well is their famine paid, and well their flame,
" Which blazes ſtill the diſtant theme of fame."

How long has that heroic event preceded the current year 1795? *Anſ.* 1928 years.

No. 17. BATTLE OF MARATHON. Marathon was a village of Attica, about 10 miles from Athens. In the adjacent plains the Athenians, with only 10,000 men*, commanded by the heroic MILTIADES, defeated Datis at the head of 100,000 Perſian infantry, and 10,000 horſe. Five Athenian generals, and about 200 citizens, periſhed in the engagement. The Perſians loſt 6000 of their braveſt troops.

The battle of Marathon, ſays Dr. Rutherford, has often deſervedly filled the page of the hiſtorian. Never had ſo ſmall a body of forces overcome ſo great an hoſt. Their ſplendid achievements and extraordinary ſucceſs, inſpired the Greeks with an enthuſiaſm of valour, and are conſidered by Plato as the ſource and original cauſe of their future conqueſts and victories. The terror of the Perſian power, hitherto ſo formidable, was diſſipated. The Greeks were taught, from ſucceſs, to know their own ſtrength, and to tremble no more at the name of an enemy whom they had conquered. On all following occaſions of importance, the orators recalled the field of MARATHON to the remembrance of their countrymen, and held up MILTIADES and his victorious troops to view, in order to inſpire them with a paſſion for glory, and the emulation of their anceſtors.

The battle of Marathon was fought 490 years B. C. How long is that ago this preſent year 1795? *Anſ.* 2285 years.

No. 18. BATTLE OF LEUCTRA. Leuctra was a village of Bœotia, a country of Greece, now forming a part of Livadia, in European Turkey. Here the brave EPAMINONDAS, the Theban general, in conjunction with his illuſtrious friend PELOPIDAS, obtained a famous victory over the ſuperior force of Cleombrutus, king of Sparta, who was ſlain in the engagement, together with 4000 of his ſubjects and allies, while the loſs on the part of the Thebans was only 300 men. Never had the Spartans received ſuch a blow.

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* This is the uſual number aſſigned the Athenians, but Mr Mitford, in his Hiſtory of Greece, ſuppoſes it probable, that the Athenian army amounted to 20,000 free men, and an equal number of armed ſlaves.

Some authors alſo ſtate the Perſian army at 300,000; others at 600,000, and raiſe their loſs in the expedition, and in the battle, to 200,000 men.

The

The defeat was diſgrace, and the loſs of this battle was the loſs of all they held dear, of a character for pre-eminent bravery, which they had acquired, and hitherto ſupported.

From this period the Spartans loſt the dominion of Greece, which they had enjoyed for nearly 500 years. The battle of Leuctra was fought 371 years B. C. How many years have intervened between that period and the preſent year 1795? *Anſ.* 2166 years.

No. 19. BATTLE OF MANTINEA. "Fair Mantinea's ever-pleaſing ſite" was in Arcadia, Peloponneſus, now the Morea, a peninſula of European Turkey. This place is rendered memorable by the death of the

Theban ſage
EPAMINONDAS, firſt and beſt of men!

who was ſlain in an engagement with the combined forces of ſeveral Grecian ſtates.

The laſt moments of the Theban general, as an elegant writer obſerves, did not obſcure the ſplendor of a life, which had been ſpent in the acquiſition of knowledge, in acts of beneficence, and in the aggrandiſement of his country. Amidſt the agonies of diſſolution, his only ſolicitude was for his own military glory, and the proſperity of Thebes. "Is my ſhield ſafe? Are the Thebans victorious?" were queſtions he repeated with the utmoſt anxiety. Viewing his ſhield, which was brought to him, and being informed that the Spartans were defeated, a gleam of joy prevailed for a moment over the languor of death: "Mine," ſaid he, "is a glorious departure; I die in the arms of victory; tell me not that I am childleſs*, for LEUCTRA and MANTINEA are immortal children." He then commanded the javelin to be extracted, which he knew was to occaſion his immediate death, and expired in the arms, and amidſt the groans of his ſurrounding friends. His body was depoſited in the field of battle, where a monument to his memory remained to the time of Pauſanias. *Dr. Rutherford's Anc. Hiſt. Vol.* ii. *p.* 525.

With Epaminondas expired the ſplendor of the Theban name. For to him, and to his friend Pelopidas†, the famous "Theban Pair," that obſcure republic owed the pre-eminence it had acquired in Greece.

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* In the midſt of the general affliction one of his moſt intimate friends exclaimed, "Oh! Epaminondas, you are dying, and we ſhall loſe you entirely without a hope remaining of ſeeing you revive in your offſpring; you leave us no children behind you." "You are miſtaken," replied Epaminondas coolly, "I ſhall leave behind me two immortal daughters; the victory of *Leuctra* and that of *Mantinea*." *Folard's Life of Epam. by Parry.*

† Pelopidas was a famous general of Thebes. He ſhared with Epaminondas the glory of the victory at Leuctra. He was re-elected thirteen times ſucceſſively to fill the honourable office of governor of Bœotia. Pelopidas was killed in a battle with the troops of Alexander, tyrant of Phere (a town of Theſſaly) after he had gained the victory; 364 years B. C.

The

The battle of Mantinea was fought about 363 years B. C. How long is that ago this preſent year 1795? *Anſ.* 2158 years.

No. 20. BATTLE OF THERMOPYLÆ. Thermopylæ was a narrow defile leading from Theſſaly into Locris and Phocis, diſtricts of Greece, and now part of European Turkey. It had a large ridge of high mountains on the Weſt, and the Euripus, a ſtrait which ſeparates the iſland of Negropont from the continent, on the Eaſt, with deep and dangerous marſhes, being in the moſt confined part only 25 feet in breadth. This paſs obtained its name from the adjacent hot ſprings, and was conſidered as the gate or opening into Greece. Here it was that a ſmall band of heroic Spartans, commanded by their illuſtrious king LEONIDAS, glorioufly repulſed the invading army of Xerxes, king of Perſia, conſiſting of more than 3,000,000 of men. While the *Great King*, as this infamous maurauder was called, anxious and perplexed at the ineffectual endeavours of his myriads of ſlaves to force their way through the defile, knew not what reſolution to adopt, a deteſtable miſcreant named *Epialtes*, an inhabitant of the country, induced by the hopes of reward, brought information of another paſs over the mountains of Oeta. The Spartans being by this treacherous manœuvre attacked by a detachment of 20,000 Perſians in the rear, while the main body aſſailed them in the front, it was no longer poſſible to reſiſt the weapons of ſurrounding multitudes, and this undaunted band periſhed to the laſt man, overwhelmed rather than conquered by the Perſian arms.

Twenty thouſand Perſians fell in this engagement, and among the reſt the two brothers of the "*Great King*," who was thus taught that with all the millions of the Eaſt, it might be poſſible to exterminate the Greeks, but it was impoſſible to ſubdue them.

To the memory of thoſe brave defenders of Greece, a magnificent monument was afterwards erected on the ſpot where they fell, bearing two inſcriptions; one in honour of all thoſe who had fallen on that occaſion: the other, to the memory of LEONIDAS and his 300 Spartans.

His fair renown ſhall never fade away,
Nor ſhall the mention of his name decay,
Who glorious falls beneath the conqueror's hand,
For his dear children, and his native land,
Though to the duſt his mortal part we give,
His fame in triumph o'er the grave ſhall live.

TYRTÆUS.

The fleet which accompanied the immenſe land force above mentioned is ſaid to have conſiſted of 2000 ſail. The only ſucceſsful operation of this unwieldy armament was the capture and conflagration of the city of ATHENS, which its inhabitants had previouſly deſerted. Diſgrace and diſaſter attended every other movement of its ſhort exiſtence. THEMISTOCLES, with no more than 380 ſail, diſperſed, and, in a great meaſure, deſtroyed the fleet near the iſland of SALAMIN, now called Coluri, near Athens. Xerxes ſhortly after eſcaped from Greece, leaving the remains of his deſerted army to encounter future calamities

calamities in the beſt manner it could*. On his arrival at the place where a bridge of boats had been conſtructed acroſs the Helleſpont, now called the Dardanelles, over which his vaſt maſs of ſlaves had paſſed from Aſia into Europe, he found it demoliſhed by a tempeſt, and the Perſian monarch was conſtrained to commit his perſon to the conveyance of a *cock-boat*. This ſudden and ſignal reverſe of fortune, while it conveys a forcible image of the mutability of ſublunary things, and the inſtability of human greatneſs, affords a memorable example of the heroic ardor with which LIBERTY has been defended by its votaries; as well as the diſappointment and diſhonour which await the moſt formidable preparations to extend dominion over FREE MEN, whoſe necks, venality, diſſipation, and luxury, have not previouſly *poliſhed* for the reception of the yoke of ſlavery.

Unleſs corruption firſt deject the pride
And guardian vigour of the FREE-BORN ſoul,
All crude attempts of violence are vain:
For firm within, and while at heart untouch'd,
Ne'er yet by force was freedom overcome.
But ſoon as independence ſtoops the head,
To vice enſlav'd, and vice-created wants,
Then to ſome foul corrupting hand, whoſe waſte
Theſe height'ned wants with fatal bounty feeds,
From man to man the ſlack'ning ruin runs,
Till the whole ſtate, unnerv'd, in ſlav'ry ſinks.

THOMSON.

The invaſion of Greece by Xerxes took place about 481 years B. C. How long is that ago this current year 1795? *Anſ.* 2276 years.

No. 21. BATTLE OF CHÆRONEA. Chæronea, the birth place of Plutarch, was a city of Bœotia, a diſtrict of Greece, now forming a part of Livadia in European Turkey. It was ſituated on the celebrated river Cephiſus, of which the GRACES were particularly fond, whence they are ſometimes called the goddeſſes of Cephiſus.

Chæronea is famous for the victory obtained there by PHILIP, king of Macedon†, and father of Alexander the Great, over the confederated army of the Thebans and the Athenians. ALEXANDER, who was then but ſixteen or ſeventeen years of age, commanded the left wing of the Macedonian forces. DEMOSTHENES, one of the firſt orators of antiquity, who it appears was a greater ſtateſman than a warrior, and more capable of giving ſage counſels in his harangues, than of ſupporting them by an intrepid courage, was in the Athenian army, and ſaved himſelf by flight. ISOCRATES, one of the

* Three hundred thouſand men were left in Greece under the command of Mardonius, whoſe operations were rendered uſeleſs by the courage and vigilance of the Greeks; and, in a battle at Platea, he was defeated and ſlain.

† The Macedonian empire under Philip and Alexander became one of the four great monarchies. The other three celebrated ancient monarchies were the Aſſyrian, the Perſian, and the Roman.

moſt

moſt celebrated rhetoricians of that age, not being able to ſurvive the ignominy which overwhelmed his country by the loſs of this battle, embraced death by a voluntary abſtinence.

Philip, a ſagacious and intriguing monarch, in the firſt years of his reign repulſed, divided, and diſarmed his enemies: in the ſucceeding ones, he ſubjected, by artifice or force, the moſt powerful ſtates of Greece, and made himſelf her arbiter; and by gaining the victory of Chæronea he may be ſaid to have finally enſlaved her. Thus Macedon (chiefly through diſſenſions in the other Grecian ſtates) with only 30,000 ſoldiers gained a point, which Perſia with millions of men, had attempted unſucceſsfully at Platea, at Salamis, and at Marathon.

Philip's ſucceſs at Chæronea obtained him the great object of his ambition, the nomination of Generaliſſimo to the Greeks againſt the Perſians; but, in the midſt of warlike preparations for the invaſion of Perſia, he was ſtabbed by Pauſanias, at the inſtigation, as ſome have ſuppoſed, of Olympias, the mother of Alexander, whom Philip had juſt repudiated.

The battle of Chæronea was fought 338 years B. C. How long is that ago this preſent year 1795? *Anſ.* 2133 years.

No. 22. BATTLE OF THE GRANICUS. The Granicus was one of the principal rivers of Myſia Minor, a diſtrict of Aſia Minor, bordering on the Propontis or ſea of Marmora. It had its riſe in the famous mount Ida, whoſe waters became the ſource of many other celebrated rivers, particularly the Simois and Scamander, ſo often mentioned by Homer. The Granicus diſcharged itſelf into the Propontis between Cyzicus and Lampſacus, ſomewhat north of the Helleſpont.

Alexander, ſon of Philip, and king of Macedonia, a portion of the preſent Turkey in Europe, croſſed the Granicus at the head of only 30,000 ſoldiers, in the face of the Perſian army, 600,000 ſtrong; and, on his gaining the ſhore, the latter were immediately routed with great ſlaughter. Hiſtorians remark, that the river was deep, and its banks craggy and ſteep; ſo that the forces of Darius had a conſiderable advantage, had they known how to have uſed it.

Alexander himſelf commanded the right wing of his army, and PARMENIO, his confidential general, the left. It was in this engagement that the gallant CLITUS ſaved the life of Alexander, who, in one of his fits of inebriation, afterwards ſlew him with a javelin; and Parmenio and his ſon were alſo put to death by "Macedonia's madman," upon a ſlight accuſation of treaſon againſt his perſon.

The battle of the Granicus was fought 334 years B. C. How many years have ſucceeded that event this preſent year 1795? *Anſ.* 2129 years.

N. B. The ſucceeding year, Alexander defeated Darius at Iſſus ſituated in Cilicia, on the ſpot where Ajazzo now ſtands, on the coaſt of the Mediterranean ſea, north of Antioch, and weſt of Aleppo. In this important battle 110,000 Perſians were ſlain, and the tent of

Darius taken, in which were his mother, wife, two daughters, and young ſon.

The famous battle of Arbela, a town placed by ſome geographers in Perſia, by others with more probability in Aſſyria, and ſuppoſed to have been ſituated about 140 miles N. of Bagdat, or 60 S. E. of Mouſul, was fought between Alexander and Darius ſome time after the one juſt mentioned; and it determined the fate of the Perſian empire, which was then extinguiſhed, juſt 228 years after it had been firſt founded by CYRUS the Great.

Darius, after this total defeat, fled towards Media, a country ſouth of the Caſpian ſea; and Beſſus, governor of Bactriana (part of the preſent Uſbec Tartary) a traitor whom the fallen monarch had loaded with favours, took away his life, in hopes of ſucceeding him on the throne.

The three laſt-mentioned battles, together with that which the ſame monarch had with the gallant PORUS on the banks of the river Hydaſpes, a branch of the preſent Indus, in Aſia, are denominated the *four* battles of Alexander, and have repeatedly afforded ſubjects to the painter and the engraver.

No. 23. THE DESTRUCTION OF CARTHAGE. The year 146 B. C. is memorable for the overthrow of Carthage, which was ſituated about 30 miles N. W. of Tunis in Africa. This celebrated city for a long time diſputed the empire of the world with Rome, but was at length deſtroyed by Scipio, the ſecond Africanus, in the third Punic war. The conduct of the wife of Aſdrubal, the Carthaginian commander, on this occaſion is worthy of narration. After upbraiding the perfidious wretch, her huſband, with delivering himſelf up to the Romans, ſhe ſeized her children, ſlew them, caſt them into the flames of Eſculapius's temple, which the Roman deſerters, deſpairing of pardon, had ſet on fire, and immediately ruſhed into the ſame conflagration, where ſhe periſhed. How many years did that city's cataſtrophe precede the preſent year 1795? *Anſ.* 1941.

N. B. The wars between the Romans and Carthaginians were called *Punic;* a word ſaid by ſome to be derived from *pæni*, an antiquated Latin term ſignifying falſe, faithleſs perſons; the latter people being, at all times, noted for breach of faith. Be this etymology, however, well or ill founded, *Punica fides*, or Carthaginian integrity, became, *after the middle age of the Roman ſtate*, a proverbial irony to denote fraud and perfidy.

Thou art able to inſtruct grey hairs,
And teach the wily African deceit.

ADDISON's Cato.

Long has your Carthage been renown'd for fraud,
The ſpecious ſeeming, and the deep-hid guile;
Sincerity is not the growth of Afric

HAVARD's Regulus.

No. 24. DEATH OF CÆSAR. Julius Cæſar, the famous Roman general and hiſtorian, invaded this country 54 years B. C. Having ar

at length ſubdued POMPEY, the great rival of his growing power, and ſtill purſuing his favourite maxim, "That he had rather be the firſt man in a village, than the ſecond in Rome," he aimed at the imperial dignity; in conſequence of which the friends of the civil liberty of the republic aſſaſſinated him in the ſenate-houſe.

In the Spada palace at Rome is kept the very ſtatue at whoſe feet Cæſar fell, and thoſe who ſhew it never fail to relate his care to die gracefully; which was likewiſe the laſt deſire that occupied the mind of Lucretia.

The "matchleſs BRUTUS—the laſt of Romans," as Thomſon ſtyles him, was one of the principal conſpirators. His character, uniting ſeverity of principle with gentleneſs and humanity of diſpoſition, added to firmneſs in virtuous action, is finely drawn by Shakeſpeare.

> This was the nobleſt Roman of them all;
> All the conſpirators, ſave only he,
> Did what they did in envy of great Cæſar;
> He only, in a gen'rous, honeſt thought,
> And common good to all, made one of them.
> His life was gentle; and the elements
> So mix'd in him, that nature might ſtand up,
> And ſay to all the world, THIS WAS A MAN!

Cæſar is ſaid to have fought 50 pitched battles, in which 1,920,000 human beings were butchered. The aſſaſſination of this "beſt of cut-throats" took place 42 years B. C. How long is that ago this preſent year 1795? *Anſ.* 1837.

N. B. The defeat and death of Brutus and Caſſius at PHILIPPI, in Macedonia, where theſe brave and ſtrenuous republicans engaged the Cæſarean party, commanded by Octavius Cæſar and Mark Anthony, put a final period to the popular government at Rome, ſoon after the death of Julius Cæſar.

The wife of Brutus was PORTIA, "a woman well reputed, CATO's daughter." She had formerly wounded herſelf ſeverely, to extort from her huſband the cauſe of his apparent uneaſineſs; and now, ſcorning to ſurvive Brutus, and perceiving that every weapon of deſtruction was removed from her reach, ſhe embraced death by ſwallowing burning coals. Thus has Portia left behind her an everlaſting argument, how far a generous treatment can make the tender ſex go even beyond the reſolution of man, when we allow that they are by nature formed to pity, love, and *fear*; and *we* with an impulſe to ambition, danger, and adventure.

Hiſtory has moreover recorded other ſimilar inſtances of conjugal affection and fortitude in the fair ſex. We ſhall content ourſelves with ſelecting the two following.

The affectionate Panthea plunged a poignard into her heart, and expired upon the dead body of her huſband Abradates, who had been ſlain in battle. They were both buried upon the ſpot in one common grave, and a monument was erected for them by Cyrus, which was ſtanding in the time of Xenophon.

When

When Pætus was condemned to death for having been concerned in a conſpiracy againſt Claudius, his conſort Arria, having in vain ſolicited his life, perſuaded him to deſtroy himſelf, rather than ſuffer the ignominy of falling by the hand of the executioner; and in order to encourage him to an act, to which it ſeems he was not much inclined, ſhe ſet him the example. Drawing a dagger ſhe plunged it in her breaſt, and then preſented it to her huſband with that memorable, I had almoſt ſaid, ſays Pliny, that divine expreſſion, *Pætus, it is not painful.*

Martial has celebrated this heroic action in the following famous epigram:

"When from her breaſt chaſte Arria ſnatch'd the ſword,
And gave the deathful weapon to her lord;
My wound, ſhe ſaid, believe me does not ſmart;
'Tis thine alone, my Pætus, pains my heart."

No. 25. BATTLE OF ACTIUM. Actium was a ſmall city on the Ambracian gulf, north of the iſland of Cephalonia, Turkey in Europe. It is rendered memorable by the deciſive victory which the navy of Octavius, afterwards Auguſtus Cæſar, obtained over the conjoined fleets of Anthony and Cleopatra. This event happened 31 years B. C. How many years have intervened between that period and the preſent year 1795? *Anſ.* 1826 years.

N. B. Octavius was nephew to Julius Cæſar, mentioned in the preceding queſtion. Mark Anthony was another celebrated Roman general and triumvir; that is, one of *three* perſons who govern abſolutely, and with equal authority, in a ſtate.

There were two famous triumvirates at Rome; POMPEY, CÆSAR, and CRASSUS, eſtabliſhed the firſt; and AUGUSTUS, ANTHONY, and LEPIDUS, the ſecond. This latter triumvirate gave the laſt blow to the already expiring liberty of the republic. Auguſtus having vanquiſhed Lepidus and Anthony, the triumvirate ſunk into a monarchy. In the reign of this Auguſtus JESUS CHRIST was born.

CLEOPATRA was the celebrated queen of Egypt whoſe extraordinary beauty ſubdued Julius Cæſar and Mark Anthony; the latter of whom, it is generally thought, loſt the empire of Rome by his attachment to this faſcinating but vicious woman.

When Octavius took Alexandria, in Egypt, the year after the battle of ACTIUM, Anthony and Cleopatra put an end to their own lives, and Egypt became a Roman province.

No. 26. DESTRUCTION OF XANTHUS. Xanthus was the metropolis of Lycia, a diſtrict of Aſia Minor, ſomewhat N. E. of the iſland of Rhodes. The inhabitants of this once famous city have acquired great celebrity in ancient hiſtory, like thoſe of SAGUNTUM and NUMANTIA, ſpoken of in the 15th and 16th queſtions, and on a ſimilar account; a renown which time ſhall not obſcure, while the love of FREEDOM is eſteemed an elevated and virtuous affection.

"In liberty's defence, fight conſtant, ſingle
"Die with her—'tis no life if you ſurvive her."

Theſe

Theſe brave people, when the Romans became maſters of their city, 42 years B. C. being determined not to ſurvive the loſs of liberty, deſtroyed their wives and children, ſet their city on fire, and periſhed in the conflagration, as their anceſtors had before done, rather than ſubmit to Harpagus, Cyrus's lieutenant, or to Alexander, the conqueror of Aſia. How long did the deſtruction of Xanthus precede the year 1795? *Anſ.* 1837 years.

No. 27. BATTLE OF PHARSALIA. Pharſalia was a town of Theſſaly, now Janna, which gives name to a province of European Turkey; and in the neighbourhood is a large plain, long famous for the great and deciſive battle between POMPEY aud CÆSAR. The iſſue proved fatal to the former commander, who, after a total defeat, fled to Egypt, where he was treacherouſly ſlain, by order of Ptolemy the younger, then a minor.

See Rollin, v. vii. *p.* 250, *&c. and alſo Plutarch's Life of Pompey.*

A mercenary wretch, named Theodotus, one of the counſellors who was conſulted how this brave commander ſhould be treated, obſerved, "That dead men bite not;" a ſagacious ſentiment which probably enabled Gray to remark to Queen Elizabeth, concerning the unfortunate Mary, queen of Scots, "That dead women bite not."

See Tindal's Rap. v. vii. *p.* 491.

A poem of LUCAN, in which he gives an account of the civil wars of Cæſar and Pompey, bears the name of PHARSALIA. Lucan was put to death for being concerned in a conſpiracy againſt the "imperial monſter" NERO.

The engagement at Pharſalia took place 48 years B. C. How long is that ago this current year 1795? *Anſ.* 1843 years.

N. B. After this battle CATO retired to Utica, near Tunis, in Africa; where, not chooſing to ſurvive the liberties of his country, he killed himſelf.

No. 28. A perſon owes to A £100, to B £240 10*s.* to C £784 12*s.* 6*d.* to D £500, to E £25 4*s.* 7*d.* and to F £19 19*s.* 6*d.* what do his debts amount to? *Anſ.* £1670 6*s.* 7*d.*

No. 29. A man borrowed a certain ſum of money, and paid in part £648 18*s.* 4*d.* the ſum left unpaid was £769 17*s.* 8*d.* what was the original debt? *Anſ.* £1418 16*s.*

No. 30. Laid out in beef 14*s.* 10*d.* ½. in mutton 7*s.* 4*d.* ¼. in veal 8*s.* 10*d.* ¼. in lamb 5*s.* 4*d.* ½. in vegetables 1*s.* 9*d.* ¾. in butter 1*s.* 4*d.* ½. what was expended in all? *Anſ.* £1 19*s.* 8*d.* ¼.

No. 31. Paid a baker's bill of £2 12*s.* 6*d.* a butcher's of £8 7*s.* 6*d.* a cheeſemonger's of 18*s.* 9*d.* a milliner's of £5 18*s.* a mantua-maker's of £2 14*s.* 8*d.* and a hair-dreſſer's of £5 10*s.* what is the amount of the ſeveral ſums? *Anſ.* £26 1*s.* 5*d.*

No. 32. Expended in gloves 14*s.* 8*d.* in gauze £1 3*s.* 7*d.* in ribands 2*s.* 6*d.* in ſtockings 16*s.* in lace £4 10*s.* in cambric £2 12*s.* 6*d.* in muſlin £3 4*s.* and in ſilk £5 12*s.* what was the whole ſum ſpent? *Anſ.* £18 15*s.* 3*d.*

No. 33. Bought 6 yards of mode, at 6*s.* 4*d.* per yard; 6 yards of lining, at 3*s.* 2*d.* per yard; 9 yards of lace, at 4*s.* 10*d.* per yard, and paid for making the cloak 2*s.* 6*d.* what is the amount of the whole? *Anſ.* £5 3*s.*

No. 34. St. Paul's cathedral coſt £800,000; the Royal-Exchange £80,000; the Manſion-Houſe £40,000; Black-Friars-Bridge £152,840; Weſtminſter-Bridge £389,000; and the Monument £13,000; what is the amount of theſe ſums? *Anſ.* £1,474,840.

No. 35. MONEY AND COIN. Coin differs from money as the ſpecies from the genus. Money is any matter, whether metal, wood, leather, glaſs, horn, paper, fruits, ſhells, or kernels, which have currency as a medium in commerce. Coin is a particular ſpecies, always made of metal, and ſtruck according to a certain proceſs called coining.

The preciſe epocha of the invention of money is unknown; but, from the neceſſity and obviouſneſs of the thing, it is ſuppoſed to have taken place at a very early period of the world. Coins are evidently not of equal antiquity. In effect, the very commodities themſelves were the firſt moneys, i. e. were current for one another by way of exchange. That purchaſes were thus made in the time of the Trojan war, we learn from Homer.

> Each, in exchange, proportion'd treaſure gave;
> Some braſs, or iron, ſome an ox, or ſlave.
> For Diomed's braſs arms, of mean device,
> For which nine oxen paid (a vulgar price)
> He gave his own, of gold divinely wrought,
> A hundred beeves the ſhining purchaſe bought.
>
> POPE'S Homer.

Hence it may be inferred, that at the period alluded to, namely, about 1184 years B. C. the trade of countries was carried on by exchange in groſs; braſs, oxen, ſlaves, &c.

Coin is a piece of metal converted into money by the impreſſion of certain marks or figures thereon.

Money was firſt made of gold and ſilver at Argos in Greece, 894 B. C. The firſt coining of ſilver took place at Rome 269, and of gold 206 years B. C.

Many ſilver coins of the ancient Anglo-Saxon kings have been found in England; and regular ſeries of Engliſh coins have been collected even from the reign of Egbert to the preſent time. Shillings were firſt coined in England by Henry VII. in 1503. Fleetwood, in his *Chronicon Preciоſum*, ſtates the firſt coining of ſilver crowns and half crowns to have been in the reign of Edward VI. There were

Engliſh

Engliſh crowns long before that period, but they were always of gold. Some pieces of gold were coined by Henry III. about the year 1257; but it is from the reign of Edward III. that the regular ſeries of gold coinage commences. In 1344, that prince firſt ſtruck *florens*, ſuppoſed to be ſo called from the beſt gold then coined at Florence, a ſtate where the fine arts then began faintly to dawn. The floren was then worth ſix ſhillings, but it is now intrinſically worth nineteen, from the increaſed value of gold, and diminution of the value of ſilver coins. Gold coins, under various denominations, were afterwards ſtruck by our different Engliſh princes. Charles II. iſſued half guineas, double guineas, and five guinea pieces. The firſt money coined in ancient Britain ſeems to have been copper; but, after the arrival of the Saxons in England, ſcarcely any copper money appeared here for many centuries; nor was there a general currency of Engliſh authorized copper money till the year 1672. Copper money was firſt uſed in Scotland and Ireland A. D. 1340. A conſiderable coinage of guineas took place in the reigns of Charles II. and James II.

Before the Revolution Engliſh money was in a moſt wretched condition, having been filed and clipped by natives as well as foreigners, inſomuch that it was ſcarcely left of half the value: the retrieving of this diſtreſſed ſtate of our coin is juſtly regarded as one of the glories of king William's reign.

The Britiſh coinage is now wholly performed in the Tower of London, where there is a corporation for it, under the title of the *Mint*.

Political writers conſider the increaſe of ſums coined, as a certain proof of the increaſe of our national commerce. By George I. £8,725,921 ſterling were coined. In the long reign of George II. £11,966,576; and in the firſt 24 years of his preſent majeſty's reign, the ſums coined amounted to £33,089,274 ſterling; what is the amount of theſe ſums? *Anſ.* £53,781,771.

SUBTRACTION

TEACHES to take a leſs number from a greater, and ſhews the difference or remainder.

EXAMPLES.

No. 36. DESTRUCTION OF JERUSALEM. The deſtruction of Jeruſalem by Nebuchadnezzar has been noticed in the 12th queſtion. In the year 536 B. C. Cyrus king of Perſia publiſhed the famous edict

edict* which permitted the return of the Jews to Jeruſalem. This edict is ſuppoſed to have been obtained by the earneſt ſolicitations of Daniel, who enjoyed great credit and authority at court. Cyrus had been mentioned by Iſaiah† 200 years before his birth, as the perſon appointed by God for the deliverer of the captive Jews, by ordering the rebuilding of their temple, and their own reſtoration to Jeruſalem and Judea. Shortly after the emiſſion of this edict, the Jews departed, and began to rebuild their temple and city. After having completed theſe important undertakings, and ſuſtained various diſaſters from the Egyptians, Syrians, and Romans, Jeruſalem was at length finally deſtroyed by the latter people under TITUS, the ſon of Veſpaſian, who not only levelled the buildings to the ground, but even entirely razed the city with the plough; ſo that, in conformity to our Saviour's prediction‡, not one ſtone remained upon another. The numbers who periſhed in this ſiege, amounted, according to Joſephus the Jewiſh hiſtorian, to above 1,000,000, and the captives to almoſt 100,000. The temporal ſtate of the Jews ended with their city; immediately after whoſe ſubverſion, the wretched ſurvivors were baniſhed, ſold, and diſperſed into all parts of the world, where they continue to this day a "ſtanding miracle" in favour of the truth of our holy religion. This event occurred A. D. 70; how long is that ago, this preſent year 1795? *Anſ.* 1725 years.

N. B. TITUS, ſays Joſephus, ſeeing Jeruſalem lie in ruinous heaps and rubbiſh, and reflecting on its former beauty, riches, and glory, could not forbear weeping, and curſing the obſtinacy of the ſeditious Jews, who had forced him, againſt his inclination, to deſtroy ſo magnificent a city, and ſuch a glorious temple, as was not to be paralleled in all the world.

It has been ſaid of Titus, that he was truly the father of his people; for though Rome ſuffered various calamities during his reign, yet ſuch was his equitable and mild adminiſtration, that he conſtantly preſerved his popularity, and continued to his death (which happened A. D. 81)

The delight of men!

Very different were his predeceſſors, TIBERIUS, CALIGULA, CLAUDIUS, NERO, VITELLIUS—

Imperial monſters all. A race on earth
Vindictive ſent, the ſcourge of human-kind!

No. 37. BATTLE OF HASTINGS. William, duke of Normandy, invaded England A. D. 1066, and defeated Harold, the reigning prince, at the battle of Haſtings in Suſſex. In this famous engagement, which laſted from morning till ſun-ſet, there fell 15,000 Normans, and the loſs on the ſide of the vanquiſhed was yet more conſiderable, beſides that of the king and his two brothers. William

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* Ezra, chap. i. † Iſaiah xliv. 28. xlv. 1 and 13.
‡ Matt. xxiv. 2. Luke xix. 41—44. chap. xxi. 6 and 24.

had

had three horſes ſlain under him. This victory put an end to the Saxon monarchy in England, which had continued for more than 600 years. Thus

> The haughty Norman ſeiz'd at once an iſle,
> For which thro' many a century, in vain,
> The Roman, Saxon, Dane, had toil'd and bled.
>
> THOMSON.

The conquering deſpot became a moſt cruel tyrant to his Engliſh ſubjects. The nobility and gentry were deſpoiled of their lands and honours, which were given to the Normans; and, as Hume obſerves, the Engliſh name became a term of reproach.

> The furious victor's partial will prevail'd.
> All proſtrate lay; and, in the ſecret ſhade,
> Deep ſtung but fearful indignation gnaſh'd
> His teeth. Of freedom, property, deſpoil'd,
> And of their bulwark, arms; with caſtles cruſh'd,
> With ruffians quarter'd o'er the bridled land,
> The ſhivering wretches, at the curfeu * ſound,
> Dejected ſhrunk into their ſordid beds,
> And thro' the mournful gloom of ancient times
> Mus'd ſad, or dream'd of better. Even to feed
> A tyrant's idle ſport the peaſant ſtarv'd †:
> To the wild herd, the paſture of the tame,
> The chearful hamlet, ſpiry town ‡ was given,
> And the brown foreſt roughened wide around.
>
> THOMSON.

William, commonly called the conqueror, was the illegitimate ſon of Robert, the 5th duke of Normandy, by Arlotte, a furrier's daughter of Falaiſe; and ſo little was he aſhamed of his birth, that he aſſumed the appellation of Baſtard in ſome of his letters and charters.

Hume, v. I. *p.* 263.

William's mother was ſo infamous a character, that our obnoxious term harlot is ſuppoſed to be derived from her name.

The ſubjugation of England, of which we have now been ſpeaking, took place in 1066. How many years have elapſed ſince that event to the preſent year 1795? *Anſ.* 729 years.

No. 38. CROISADE. Croiſade, cruſade, or *holy war*, imports an expedition of "*banditti ſaints*," or *pretended* Chriſtians, againſt

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* The curfeu bell, from the French *couvre feu*, which was rung every night at eight o'clock, to warn the *Engliſh* to extinguiſh their fires and candles, under the penalty of a ſevere fine.

† Many populous towns and villages, and indeed the whole country, for above thirty miles in compaſs, were laid waſte to make the New Foreſt in Hampſhire, for the king's deer and other game.

‡ No leſs than thirty-ſix churches were deſtroyed on this occaſion. Hence Pope well remarks of this deſpot, that he

> Stretch'd o'er the poor and church his iron rod,
> And treated alike his vaſſals and his God.

infidels or heretics; particularly againſt the Turks for the recovery of Paleſtine or the Holy Land.

The firſt croiſade was projected in 1094 by a viſionary named Peter, commonly called the *hermit*, a native of Amiens in the department of Somme, late province of Picardy, France. This ſanguinary enthuſiaſt was patronized by his *holineſs* pope Urban II. who convened a council of 310 *biſhops* at Clermont in France, at which ambaſſadors of the chief *Chriſtian* and *moſt Chriſtian* potentates aſſiſted.

At this time Europe was ſunk into the moſt profound ignorance and ſuperſtition. The eccleſiaſtics had the greateſt aſcendency over the human mind; and the "mole-eyed million," who at that period committed the moſt horrid crimes and diſorders, knew of no other expiation than the obſervances impoſed on them by the prieſts, who were the prime inſtigators of this frantic undertaking. All orders of men were therefore taught to conſider the croiſades as the only road to heaven; and the greateſt criminals were forward in a ſervice, which they imagined would be an expiation of all crimes; and the moſt enormous diſorders were, during the courſe of theſe expeditions, committed by monſters inured to wickedneſs, encouraged by example, and impelled by neceſſity. And when Jeruſalem was taken, theſe ruffians not only put the numerous garriſon to the ſword, but maſſacred the inhabitants themſelves, without mercy, and without diſtinction. No age nor ſex was ſpared, not even ſucking children.

> Twelve thouſand wretches,
> Receiv'd no mercy, void of all defence,
> Truſting to plighted faith, to purchas'd ſafety,
> Behold theſe naked victims in cold blood,
> Men, women, children, murder'd, baſely murder'd!
> The ſtreets ran diſmal torrents. Drown'd in blood,
> The very ſoldier ſickens at his carnage.
>
> THOMSON.

After this terrible ſlaughter, and while their hands were yet polluted with the blood of ſo many innocent perſons, did theſe impious miſcreants march to the holy ſepulchre, where they ſang anthems to the common Saviour of mankind. To that Saviour who is ſtyled the *prince of peace;* who himſelf expreſsly declared to his diſciples, that *he came not to deſtroy men's lives, but to ſave them;* at whoſe coming *peace* was *ſung*, and at whoſe departure, *peace* was bequeathed! Such are the horrid effects of bigotry and ſuperſtition!

The croiſaders diſtinguiſhed themſelves by croſſes of different colours, worn on their clothes; ordered it is ſaid by the council of Clermont; and were thence called *croiſes*, or croſs-bearers, of whom contemporary authors tell us, there were 6,000,000. The Engliſh wore them white; the French, red; the Flemiſh, green; the Germans, black; and the Italians, yellow.

This motley group of profligate adventurers gained, at firſt, conſiderable advantages; but before the expiration of the 13th century they were entirely driven from their Aſiatic poſſeſſions; and the enterprize remains a ſingular monument of human folly and wickedneſs. It muſt, however, be admitted, that to theſe flagitious expeditions we

owe

owe the extenſion of commerce, and a conſiderable melioration of the European governments.

See Robertſon's Hiſt. of Charles V. and Moſheim's Ecc. Hiſt.

There were in all nine croiſades, in which, according to Voltaire, upwards of 2,000,000 of human beings periſhed.

The firſt croiſade took place in 1096; how long is that ago this preſent year 1795? *Anſ.* 699 years.

No. 39. IRELAND SUBDUED. Ireland was formerly divided among a number of petty ſovereigns; a circumſtance which facilitated Henry the Second's conqueſt of that valuable iſland, in 1172, when it became an appendage to the Engliſh crown, and has ever ſince been governed by a lord-deputy, or lord-lieutenant, who acts by the authority and in the name of the king of England. The Britiſh parliament had formerly a conſiderable ſhare in making laws for Ireland; but, during the American war, the Iriſh obtained an emancipation from all dependance upon that aſſembly.

The chief places in Ireland are Dublin, Cork, Kinſale, Waterford, Limerick, Belfaſt, Downpatrick, Carrickfergus, and Londonderry. Linen cloth, and ſalted proviſions, are the firſt objects of Iriſh commerce.

How long has Ireland been annexed to the Britiſh dominions this preſent year 1795? *Anſ.* 623 years.

N. B. Ireland was not erected into a kingdom till the year 1542, in the reign of Henry the VIIIth, when the Engliſh parliament confirmed an act paſſed in Ireland for that purpoſe. From this period the kings of England have inſerted among their titles, that of *king* of Ireland, whereas before they were ſtyled only *lords*.

No. 40. UNION OF SCOTLAND AND ENGLAND. Caledonia was the ancient name of Scotland, whoſe king, James VI. ſucceeded to the throne of England, on the demiſe of Queen Elizabeth, which acceſſion produced the union of the two crowns in 1603. In 1707, during Queen Anne's reign, both kingdoms were alſo united, under the denomination of Great-Britain.

This union was not, however, accompliſhed without much trouble, and ſome art and intrigue; and upwards of £20,000 were, it is ſaid, diſtributed among the leading men in Scotland.

See Tindal's Rapin, v. xvi. *p.* 343.

Some of the principal places in Scotland are Edinburgh, Glaſgow, Aberdeen, and Paiſley. Herrings and other fiſh, with linens, gauzes, and ſtockings, are the chief articles of commerce.

How long have Scotland and England been united this preſent year 1795? *Anſ.* 88 years.

No. 41. MAGNA CHARTA. Runnymede, a place between Staines and Windſor, is reverenced by every ſon of liberty, as the ſpot where the liberties of Engliſhmen received a ſolemn confirmation. There the tyrannical monſter King John, "preſſed by a band of noble

noble patriots," was *compelled* to ſign the famous charter, which is now, by way of pre-eminence, called MAGNA CHARTA, and has generally been conſidered as the bulwark of Engliſh LIBERTY.

"To make aſſurance double ſure," the ratification of this charter has been reiterated no leſs than thirty ſeveral times; but all this has not prevented it from being repeatedly violated.

The following elegant inſcription for a column at Runnymede was written by Dr. Akenſide:

"THOU who the verdant plain doſt traverſe here
While Thames among his willows from thy view
Retires, O ſtranger! ſtay thee, and the ſcene
Around contemplate well. This is the place
Where England's ancient BARONS, clad in arms,
And ſtern with conqueſt, from their *tyrant king*
(Then render'd tame) did challenge and ſecure
The CHARTER of thy FREEDOM. Paſs not on
Till thou haſt bleſs'd their memory, and paid
Thoſe thanks which GOD appointed the reward
Of public virtue. And if chance thy home
Salute thee with a father's honour'd name,
Go call thy ſons, inſtruct them what a debt
They owe their anceſtors, and make them ſwear
To pay it, by tranſmitting down entire
Thoſe ſacred rights to which themſelves were born."

The celebrated charter in queſtion was wreſted from John in 1215. How long has that happy event preceded 1795? *Anſ.* 580 years.

No. 42. DIEU ET MON DROIT. Richard I. of England defeated the French at Giſors in the department of Eure, and late province of Normandy, France, A. D. 1198. That monarch's parole for the day was "*Dieu et mon droit, God and my right,*" which has almoſt ever ſince continued the motto of the royal arms of England. How many years have intervened between that victory and the preſent year 1795? *Anſ.* 597 years.

N. B. King William III. uſed the motto *Je maintiendray, I will maintain;* though he commanded the former to be retained on the great ſeal. The late Queen Anne uſed the motto, *Semper eadem, always the ſame;* which had been before adopted by Queen Elizabeth.

No. 43. BIRTH OF THE FIRST PRINCE OF WALES. When the Saxons made themſelves maſters of South-Britain, moſt of the ancient Britons retired to WALES, where they defended themſelves with the utmoſt bravery againſt the invaders; and they afterwards made many vigorous attempts to maintain their liberties againſt the encroachments of the kings of England. Edward I. however, ſubdued the whole country, and annexed it to the crown of England. Perceiving that the Welſh were not entirely reconciled to this revolution, he ſent his queen to be delivered in CAERNARVON caſtle. There ſhe was brought to bed of a ſon, whom Edward very politicly ſtyled *Prince of Wales;* which title the heir to the crown of Great-Britain

Britain has borne almoſt ever ſince. The unfortunate Edward II. the firſt prince of Wales, was born in 1284. How long is that ago this preſent year 1795? *Anſ.* 511 years.

N. B. Edward II. was cruelly butchered in Berkeley-Caſtle, Glouceſterſhire, at the inſtigation of his adulterous queen, the "ſhe-wolf of France."

The ſhrieks of death, thro' Berkeley's roofs did ring,
Shrieks of an agonizing king.

GRAY'S Bard.

Before Henry VIII. had any male iſſue, he created his daughter Mary, princeſs of Wales.

The revenue accruing to the prince of Wales, from his principality, is computed at about £8000 a year.

No. 44. ICH DIEN, and BATTLE OF CRESSY. The three *oſtrich* feathers with the motto "*Ich Dien*," which in the German language, ſignifies "*I ſerve*," were added to the arms of the prince of Wales in 1346, after the famous battle of CRESSY in the department of the Streights of Calais, and late province of Picardy. In that battle, John, king of Bohemia, though blind, ſerved as a volunteer in the French army, and was killed in the action. His creſt was three oſtrich feathers, with the above motto; which was aſſumed by Edward the black prince, ſon to King Edward III. in memorial of this great victory; and it has been ever ſince adopted by the heirs to the crown of England. How long have the ſeveral princes of Wales worn that badge of honour, this preſent year 1795? *Anſ.* 449 years.

N. B. The oſtrich is an African bird; wild, and of the ſhape of a gooſe, but much larger. The feathers of its wings are of great eſteem, and uſed as an ornament for hats, beds, canopies, &c. When hunted, the oſtrich, aided by its wings, runs with great velocity and ſtrength, but never flies. It ſwallows bits of iron or braſs, in the ſame manner as other birds will ſwallow ſmall ſtones or gravel to aſſiſt in digeſting or comminuting its food. The oſtrich lays her eggs upon the ground, hides them under the ſand, and leaves them for the ſun to hatch.

The oſtrich, ſillieſt of the feather'd kind,
And form'd of God without a parent's mind,
Commits her eggs, incautious, to the duſt,
Forgetful that the foot may cruſh the truſt.

COWPER.

No. 45. BATTLE OF POITIERS. This place is ſituated in the department of Vienne, and late province of Poitou, in France. There Edward the black prince, ſon of Edward III. obtained a deciſive victory over the French in 1356, and made John, king of France, and his ſon Philip, priſoners, whom he brought to England, where David Bruce, king of Scotland, was a captive at the ſame time. This laſt monarch had been defeated at the battle of Nevils-Croſs, near Durham, by an army raiſed by Philippa, conſort to King Edward, and commanded

commanded by Lord Piercy. How many years has the victory at Poitiers preceded the year 1795? *Anſ.* 439 years.

N. B. It was the juſt-mentioned John, king of France, who to the utter confuſion of ſome of his royal brethren, delivered that excellent ſentiment, that *truth, outraged and expelled by the reſt of mankind, ſhould find an honourable and cordial reception in the breaſt of ſovereigns.* In perfect uniſon with this noble avowal, is the declaration aſcribed by our great bard even to a profeſſed heathen.

Every drop of blood,
That every Roman bears, and nobly bears,
Is guilty of a ſeveral baſtardy,
If he do break the *ſmalleſt particle*
Of any *promiſe* that hath paſs'd him.

SHAKESPEARE.

No. 46. BATTLE OF AGINCOURT. Agincourt, a village in the French Netherlands, now included in the department of the Streights of Calais, is celebrated in our annals as the place where Henry V. defeated the French in 1415. The enemy, headed by the dauphin and all the princes of the blood, were four times more numerous than the Engliſh. The different ſituation of the two armies, on the eve of the engagement, is admirably deſcribed by Shakeſpeare.

Proud of their numbers and ſecure in ſoul,
The confident and over-luſty *French*
Do the low-rated *Engliſh* play at dice;
And chide the cripple tardy-gaited night,
Who, like a foul and ugly witch, does limp
So tediouſly away. The poor condemned *Engliſh*,
Like ſacrifices, by their watchful fires
Sit patiently, and inly ruminate
The morning's danger: and their geſture ſad,
Inveſt in lank-lean cheeks, and war-worn coats,
Preſented them unto the gazing moon
So many horrid ghoſts.

The poet's delineation is corroborated by the teſtimony of our beſt hiſtorians, who aſſure us, that the Engliſh army languiſhed with ſickneſs and fatigue, and were in great want of food; while the French were in perfect health, and plentifully ſupplied with proviſions of every kind. But Henry's valour was ſuch, as no danger could ſtartle, and no difficulties oppoſe; nor was his policy inferior to his courage. His conduct in this perilous juncture beſpoke him conſummate in the art of commanding.

Forth he goes, and viſits all his hoſt,
Bids them good morrow with a modeſt ſmile,
And calls them brothers, friends, and countrymen.
Upon his royal face there is no note,
How dread an army hath enrounded him;
Nor doth he dedicate one jot of colour
Unto the weary and all-watched night,
But freſhly looks and over-bears attaint,
With cheerful ſemblance and ſweet majeſty;

That

That every wretch, pining and pale before,
Beholding him, plucks comfort from his looks.
A largeſs univerſal, like the ſun,
His liberal eye doth give to ev'ry one,
Thawing cold fear.

SHAKESPEARE.

The event of the battle was ſuch as might be expected from the oppoſite conduct of its chiefs. Preſence of mind, dexterity, courage, firmneſs, and precaution, were manifeſted on the part of the Engliſh: precipitation, confuſion, and vain confidence, on the part of the French, who loſt 10,000 men in the engagement, and had beſides 14,000 taken priſoners. All the Engliſh who were ſlain did not, according to ſome hiſtorians, exceed 40; though other writers, with greater probability, make the number more conſiderable.

The victory of Agincourt was obtained by Henry V. on St. Criſpin's day, Oct. 25, 1415. How long is that ago this preſent year 1795? *Anſ.* 380 years.

No. 47. BATTLE OF TOWTON. Towton, a place ſituated S. E. of Tadcaſter, in Yorkſhire, is noted for an engagement between the deluded adherents of the houſes of York and Lancaſter. This famous battle is generally ſuppoſed to be one of the moſt fierce and bloody that ever happened in any domeſtic war. Both armies conſiſted of 100,000 men; above 36,000, ſome hiſtorians ſay 40,000, of whom were "made a prey for carrion kites and crows" in this fatal conflict, which terminated in a total victory on the ſide of the Yorkiſts. This event took place in 1461. How long is that ago this preſent year 1795? *Anſ.* 334 years.

N. B. Perſons at this period took different ſymbols. The partiſans of the houſe of Lancaſter choſe the *red* roſe as their mark of diſtinction; thoſe of York were denominated from the *white*.

Then will I raiſe aloft the *milk-white* roſe,
With whoſe ſweet ſmell the air ſhall be perfum'd;
And in my ſtandard bear the arms of *York*,
To grapple with the houſe of Lancaſter.

SHAKESPEARE.

Theſe inteſtine wars were therefore known over Europe, by the name of the quarrel between the *roſes*. They originated with the deſcendants of Edward III. That monarch was ſucceeded by his grandſon Richard II. who being depoſed, the duke of Lancaſter was proclaimed king by the title of Henry IV. in prejudice to the duke of York, the right heir to the crown; he being deſcended from Lionel, the *ſecond* ſon of Edward III. whereas the duke of Lancaſter was the ſon of John of Gaunt, the *third* ſon of King Edward. The acceſſion of Henry to the throne occaſioned ſeveral conſpiracies, and the battle of SHREWSBURY, during his reign; and the animoſities which ſubſiſted between his deſcendants and thoſe of the duke of York, afterwards filled the kingdom with civil commotions, and deluged

deluged its plains with blood, particularly in the reigns of Henry VI. and Edward IV.

> But little now avail'd
> The ties of friendſhip: ev'ry man, as led
> By inclination or vain hope, repair'd
> To either camp, and breath'd immortal hate
> And dire revenge. Now horrid ſlaughter reigns;
> Sons againſt fathers tilt the fatal lance,
> Careleſs of duty, and their native grounds
> Diſtain with kindred blood.———————
> ——————— Here might you ſee
> Barons and peaſants on th' embattled field
> Slain or half-dead in one huge ghaſtly heap
> Promiſcuouſly amaſs'd. With diſmal groans
> And ejulation in the pangs of death
> Some call for aid neglected; ſome o'erturn'd
> In the fierce ſhock lie gaſping and expire,
> Trampled by fiery courſers. Horror thus
> And wild uproar and deſolation reign'd
> Unreſpited.
>
> PHILIPS.

No. 48. BATTLE OF BOSWORTH. Boſworth-Field, Leiceſterſhire, is famous in our annals for the defeat and death of Richard III. in the year 1485, when his antagoniſt, Henry, earl of Richmond, was immediately proclaimed king by the ſtyle of Henry VII. Great crimes have been imputed to Richard, particularly the murder of Edward prince of Wales, ſon of Henry VI. the murder of Henry VI. the murder of his brother, George, duke of Clarence; the execution of Rivers, Gray, and Vaughan; the execution of Lord Haſtings; the murder of Edward V. and his brother; and the murder of his queen.

But Horace Walpole, now earl of Orford, has examined the circumſtances of each crime, and the evidence of each of the charges againſt him; and has endeavoured to prove, that ſome of the crimes imputed to him were contrary to Richard's intereſt, and almoſt all inconſiſtent with probability or with dates, and ſome of them involved in material contradictions. It is certain, that the partizans of the houſe of Tudor took much pains to blacken Richard's memory; and that ſufficient evidence has not been produced of the crimes charged againſt him; nor does it appear, that his perſon was ſo deformed as it has been repreſented.

The engagement in Boſworth-Field was the *thirteenth* and *laſt* battle between the houſes of York and Lancaſter. In theſe ſanguinary and unnatural conteſts, which, as an eminent writer obſerves, aroſe from the *folly* of an attachment to certain perſons and families as poſſeſſed of ſome *inherent right* to kingly power, many of the moſt ancient families of the kingdom were entirely extinguiſhed, and no leſs than 100,000 human beings loſt their lives!!

Men

Men of one nature, of one ſubſtance bred,
Who met in theſe inteſtine ſhocks
And furious cloſe of civil butcheries;
Making war upon themſelves, blood againſt blood,
Self againſt ſelf. O moſt prepoſterous
And frantic outrage.

SHAKESPEARE.

How long has the battle of Boſworth preceded the year 1795? *Anſ.* 310 years.

N. B. The intereſts of the houſes of York and Lancaſter were blended by the marriage of Henry VII. and the princeſs Elizabeth, daughter of Edward IV.

Richmond Henry, by nuptial rites
Did cloſe the gates of Janus*, and remove
Deſtructive diſcord. Now no more the drum
Provokes to arms, or trumpet's clangour ſhrill
Affrights the wife's, or chills the virgin's blood.

PHILIPS.

No. 49. PRINTING. The art of printing, at leaſt in Europe, is a modern diſcovery; and who were the firſt inventors of European printing, in what city, and what year, it was at firſt ſet on foot, has been long diſputed among the learned. In effect, as the Grecian cities contended for the birth of HOMER, ſo do the German cities for that of printing. MENTZ, HAERLEM, and STRASBURGH, are the warmeſt on this point of honour: the firſt has always had the majority of voices; but the queſtion, in reality, is not yet juſtly decided. MENTEL of Straſburgh, GUTTENBERG and FAUST of Mentz, and COSTER of Haerlem, are the perſons to whom this honour is ſeverally aſcribed by their reſpective countrymen; and they have all had their advocates among the learned. The introduction of this invaluable art into this kingdom is juſtly aſcribed to WILLIAM CAXTON, a merchant of London, who had acquired a knowledge of it in his travels abroad. The bare mention of printing ſhould fill every modern with gratitude to Divine Providence for the communication of ſo invaluable an art. For, if man's intellect be the faculty which bears the principal and moſt marked traits of the CREATOR's image, how ineſtimable every aid for facilitating the operations, and forwarding the perfection of that power! This aſſiſtance the invention of printing has adminiſtered in a moſt ſignal manner, by diffuſing among every claſs of men a degree of knowledge, which, previouſly to the diſcovery in queſtion, is known to have been confined to very few. Before the invention of printing, it was hardly

* Janus is ſaid to have been the moſt ancient king who reigned in Italy. After death he was ranked among the gods, and worſhipped by the Romans, on account of the civilization which he had introduced among the wild inhabitants of Italy. His temple, which was always open in times of war, was ſhut only three times during above 700 years. One of theſe periods was in the time of Auguſtus, in whoſe reign, as we have before obſerved, Jeſus Chriſt was born.

poſſible, from the great expence of manuſcripts, for the lower claſſes to obtain even an imperfect knowledge of the ſacred writings.

This ſingle conſideration places the importance and benefits of printing in a very diſtinguiſhed point of view, and with a pre-eminence ſo deciſive, that it precludes the neceſſity of dilating on the other advantages, however numerous and extenſive, which not only derive their origin from the ſame ſource, but are indebted to it for ſtability and duration. In a word, the art of PRINTING confers immortality on heroes, patriots, legiſlators, and philoſophers; on the beſt, and greateſt, and wiſeſt of the human ſpecies! For, as an elegant poet remarks,

> Sepulchral columns wreſtle but in vain
> With all-ſubduing time; his cank'ring hand,
> With calm deliberate malice, waſteth them:
> Worn on the edge of days, the braſs conſumes,
> The buſto moulders, and the deep cut marble,
> Unſteady to the tool, gives up its charge.
>
> BLAIR.

Rightly then does our immortal Shakeſpeare exhort mankind

> To let their fame
> Live regiſter'd upon our *printed* books.

CAXTON introduced the knowledge of printing into England in 1471. How long is that ago this preſent year 1795? *Anſ.* 324 years.

No 50. PARISIAN MASSACRE. The Pariſian maſſacre was carried on with ſuch perfidy, and executed with ſuch cruelty, as would ſurpaſs all belief, were it not atteſted with the moſt undeniable evidence. In the year 1572, in the reign of Charles IX. many of the principal Proteſtants were invited to Paris, under a SOLEMN OATH of ſafety, upon occaſion of the marriage of the king of Navarre, the head of the proteſtant party, with the French king's ſiſter. Though doomed to deſtruction, they were received with careſſes, loaded with honours, and treated, for ſeven months, with every poſſible mark of familiarity and confidence. In the midſt of their ſecurity, the warrant for their deſtruction was iſſued by their ſovereign, on whoſe word they had relied; and in obedience to it, their countrymen, their fellow-citizens, and companions, imbrued their hands in their blood. This horrid butchery began on the 24th of Auguſt, being Bartholomew's day, on which, and the two ſucceeding days, above 10,000 Proteſtants, without diſtinction of age, or ſex, or condition, were murdered in Paris alone. A butcher boaſted to the king, that he had hewn down 150 in one night; and De Thou, a celebrated French hiſtorian, affirms, that he had often, with the utmoſt horror, ſeen a goldſmith, named Crucé, who boaſted of having killed 400 with his own hands. A like carnage enſued in the provinces, where upwards of 25,000 more were deſtroyed by thoſe blood-thirſty miſcreants. This horrid deed was, however, applauded in *Spain*; at *Rome*, ſolemn

lemn thankſgivings were offered to God for its ſucceſs; and medals were ſtruck at *Paris* in honour of it.

The horrid maſſacre of Paris happened in 1572; how long is that ago this preſent year 1795? *Anſ.* 223 years.

No. 51. IRISH MASSACRE. This tragical event took place in the year 1641. By the inſtigation of the Romiſh prieſts, the perſons, houſes, cattle, and goods, of the Engliſh in Ireland were ſeized; an univerſal maſſacre enſued; and neither age, nor ſex, nor infancy, were ſpared; all conditions were involved in one general ruin. "After rapacity had fully exerted itſelf," ſays Mr. Hume, "cruelty, and the moſt barbarous, that ever, in any nation, was known, or heard of, began its operations."——"Death was the lighteſt puniſhment inflicted by theſe more than barbarous ſavages. All the tortures which wanton cruelty could deviſe, all the lingering pains of body, the anguiſh of mind, the agonies of deſpair, could not ſatiate" their revenge. By ſome accounts the number who were ſlaughtered in this maſſacre are ſtated to amount to one hundred and fifty, or two hundred thouſand; but by other accounts they are computed at only forty thouſand.

How long has the Iriſh maſſacre preceded the preſent year 1795? *Anſ.* 154 years.

No. 52. SPANISH ARMADA.

There was a time
When all the pride of Spain, in one dread fleet,
Swell'd o'er the lab'ring ſurge, like a whole heaven
Of clouds, wide roll'd before the boundleſs breeze.
Gaily the ſplendid armament along
Exultant plough'd, reflecting a red gleam,
As ſunk the ſun o'er all the flaming vaſt;
Tall, gorgeous, and elate, drunk with the dream
Of eaſy conqueſt*; while with bloated war,
Stretch'd out from ſky to ſky, the gather'd force
Of ages held in its capacious womb:
But ſoon, regardleſs of the cumbrous pomp,
The dauntleſs BRITONS came, a gloomy few!
With tempeſt black the goodly ſcene deform'd,
And laid their glory waſte†. The bolts of fate
Reſiſtleſs thunder'd thro' their yielding ſides;
Fierce o'er their beauty blaz'd the lurid flame;
And ſeiz'd in horrid graſp, or ſhatter'd wide
Amid the mighty waters, deep they ſunk‡.

* No doubts were entertained, but ſuch vaſt preparations, conducted by officers of conſummate ſkill, muſt finally be ſucceſsful. And the Spaniards, oſtentatious of their power, and elated with vain hopes, denominated their navy the *Invincible Armada*.

† Lord Howard of Effingham had the command of the Engliſh navy: Drake, Hawkins, and Frobiſher, the moſt renowned ſeamen in Europe, ſerved under him.

‡ The Engliſh, in an engagement in the Channel, took or deſtroyed about twelve of the enemy's ſhips, beſides doing great damage to many others.

Then,

Then, too, from every promontory chill,
Rank fen, and cavern, where the wild wave works,
There came confederate winds, and ſwell'd a ſtorm*.
Round the glad iſle, ſnatch'd by the vengeful blaſt,
The ſcatter'd remnants drove; on the blind ſhelve
And pointed rock, that marks the indented ſhore,
Relentleſs daſh'd, where loud the northern main
Howls thro' the fractur'd CALEDONIAN iſles †.

THOMSON.

How many years have elapſed between the glorious victory now under conſideration, which was obtained in 1588, and the preſent year 1795? *Anſ.* 207 years.

No. 53. GUNPOWDER TREASON. This conſpiracy is one of the moſt memorable events that hiſtory has conveyed to poſterity, containing at once, as Hume remarks, a ſingular proof both of the ſtrength and weakneſs of the human mind; its wideſt departure from morals, and moſt ſteady attachment to religious prejudices. This deteſtable plot was formed by the Roman-Catholics to blow up the Parliament-Houſe, and conſign to inevitable deſtruction, the king (James I.) lords, and commons, there aſſembled; a fact as certain as it appears incredible. The principal conſpirators were Winter, Cateſby, Percy, and Fawkes. This laſt undertook to ſet fire to the train of gunpowder, but was apprehended the preceding evening.

Several of the conſpirators were executed at the weſt end of St. Paul's, Jan. 30, 1606; others, among whom was Fawkes, the enſuing day, in the Old-Palace-Yard, Weſtminſter; and many Jeſuits, their accomplices, ſuffered death in the courſe of the year at Tyburn.

Guy Fawkes and his aſſociates aſſembled, and concerted the Gunpowder-Plot, at the Old King's-Head-Tavern, Leadenhall-Street. Part of this houſe yet remains, and is ſaid to be the oldeſt building in London, having eſcaped all the conflagrations that have happened. It has lately been new fronted, and is occupied by Mr. Barrow, biſcuit-baker.

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* Queen Elizabeth was ſo ſenſible of this ſignal interpoſition of Providence, in favour of our "ſea-girt iſle," that in the reverſe of a medal which was ſtruck to perpetuate the memory of the defeat of the Armada, ſhe cauſed a fleet to be repreſented beaten by a tempeſt, and falling foul upon one another, with that religious inſcription, "*Afflavit Deus, et diſſipantur*, He blew with his wind, and they were ſcattered."

† The remaining part of the Armada, in attempting to return home by ſailing northwards, was overtaken by a violent tempeſt near the Orkneys, and many of the ſhips were miſerably wrecked either on the weſtern iſles of Scotland, or on the coaſt of Ireland. Not half of the navy returned to Spain.

They truſt in navies, and their navies fail,
God's curſe can caſt away ten thouſand ſail:
His pow'r ſecur'd us when preſumptuous Spain
Baptiz'd her fleet invincible in vain.

COWPER.

The

The Gunpowder-Plot was to have been executed Nov. 5, 1605. How long is that ago this preſent year 1795? *Anſ.* 190 years.

No. 54. DECOLLATION OF CHARLES I. Charles I. in conſequence of his tyrannical adminiſtration, was at length publicly executed, at the front of his own palace at Whitehall. He had early imbibed very deſpotic principles, and as he found the parliaments which he called at the beginning of his reign not ſufficiently tractable, he reſolved to endeavour to govern without any parliament. Accordingly he aſſembled no parliament for upwards of eleven years; and, during that whole period, his government was little better than one continued violation of the rights of the people. He involved his ſubjects in all the horrors of civil war, merely to ſupport his own unjuſt and tyrannical claims; and yet he has been frequently ſtyled THE BLESSED MARTYR. But he was certainly a martyr to nothing, but to his obſtinacy, and his deſpotic diſpoſition. Voltaire, however, ſaid, that every king in Europe got up with a crick in his neck on the 30th of January. When Quin, the celebrated actor, was once aſked, by what law of the land Charles was beheaded, he replied, "By all the law that he had left in it." The day of Charles's decapitation has been long kept as a ſolemn faſt, but ſome perſons have been of opinion, that it ought rather to have been kept as a feſtival. A motion was made ſome years ago, in the Houſe of Commons, for ſetting aſide the obſervance of the 30th of January, when it was remarked by one of the members, "That the day ought ever to be remembered, that future kings might know, what a brave and a free people dare do."

King Charles I. was beheaded January 30, 1649; how long is that ago in 1795? *Anſ.* 146 years.

No. 55. ACT OF UNIFORMITY. In the immoral and licentious reign of Charles II. an act was paſſed, enjoining an uniformity in matters of religion; and, among other injunctions, requiring all miniſters, who would continue in the church, or be admitted to livings, to declare their aſſent and conſent to a new edition of the Common-Prayer-Book, *before many of them could have an opportunity of ſeeing it.* This was called the ACT OF UNIFORMITY, and cauſed upwards of 2000 pious and conſcientious miniſters to quit the church of England, and take their lot among the Diſſenters, who hereby received ſo large an addition, that they may be conſidered as the fathers of the diſſenting intereſt. The glorious ſtand which theſe good men made in favour of Chriſtian liberty, did great honour to the Proteſtant faith, and tended, more than a thouſand other arguments, to convince a profligate age of the REALITY OF RELIGION, and the regard that is due to the rights of conſcience.

The *Nonconformiſt's Memorial* contains a conciſe view of the lives and characters of theſe ejected worthies.

The

The great Mr. Locke, ſpeaking of this arbitrary and impolitic act, obſerves, that " Bartholomew's day was fatal to our church and religion, in throwing out a very great number of *worthy*, *learned*, *pious*, and *orthodox* divines."

This event took place Auguſt 24, 1662, (juſt 90 years after the maſſacre of Paris) how long is that ago this preſent year 1795? *Anſ.* 133 years.

No. 56. ABDICATION OF JAMES II. The popiſh bigot and TYRANT James II. guided by the Jeſuit Peters, his confeſſor, and the infamous chancellor Jefferies, after endeavouring to ſubvert the conſtitution of the kingdom, by breaking the original contract betwixt the king and people, and violating the fundamental laws of the realm, more eſpecially thoſe enacted for the ſecurity of the Proteſtant religion, being unable longer to face the juſt reſentment of his much injured ſubjects, abdicated the government in 1688, and eſcaped to France.

The tyrant from our ſhore
Like a forbidden dæmon fled,
And to eternal exile bore
Pontific rage and vaſſal dread:
There ſunk the mould'ring Gothic reign;
New years came forth, a lib'ral train!
Call'd by the PEOPLE'S great decree.

AKENSIDE.

James II. died at the palace of St. Germains, near Paris, in 1701; how long did he ſurvive his abdication? *Anſ.* 13 years.

No. 57. GLORIOUS REVOLUTION. The brave prince of Orange*, afterwards WILLIAM III. landed at TORBAY in Devonſhire, in 1688. He was invited over to England, to protect the country from the tyrannical oppreſſions of James II. This intereſting event has been ſtyled in the Britiſh hiſtory, the GLORIOUS REVOLUTION, and king William is much celebrated for his ſhare in the tranſaction.

To ſave Britannia, lo!
Than hero more! the patriot of mankind!
Immortal NASSAU came.

---

* Orange, an ancient and conſiderable town, is the capital of the principality of the ſame name, in the department of Drome and late province of Dauphiny, France. It devolved to the houſe of Naſſau in 1531, but was ſeized by Lewis XIV. during the war with king William. On the demiſe of this laſt monarch in 1702, it was claimed by the king of Pruſſia, who in 1713 exchanged it for Guelders in the Netherlands.

Arriv'd;

Arriv'd; the pomp, and not the waſte of arms,
His progreſs mark'd.
His was the bloodleſs conqueſt of the heart;
Shouts without groans, and triumph without war.

THOMSON.

Among the principal promoters of the Revolution were the earls of Devonſhire and Danby, with the Lord Delamer. They met privately at Whittington, a village on the edge of Scarſdale, in Derbyſhire; and the houſe in which they aſſembled has ever ſince been denominated the Revolution-Houſe. A print of this diſtinguiſhed cottage may be ſeen in the Gent. Mag. for Feb. 1789.

Where Scarſdale's cliffs the ſwelling paſtures bound,
————There often let the farmer hail
The ſacred orchard which imbow'rs his gate,
And ſhew to ſtrangers paſſing down the vale
Where CAV'NDISH, BOOTH, and OSBORNE ſat,
When burſting from their country's chain
Ev'n in the midſt of deadly harms,
Of papal ſnares and lawleſs arms,
They plann'd for FREEDOM this her nobleſt reign.

AKENSIDE.

By this excluſion of King James, and the ſubſequent tranſactions, particularly the ratification of the Bill of Rights, the rights of the inhabitants of Britain were more clearly aſcertained, and better eſtabliſhed, than at any preceding period. "By the Revolution future Engliſh monarchs were inſtructed, that government was not inſtituted for the benefit of the prince, but of the people; that he is accountable to them for the execution of the truſt which they have repoſed in him; that oppoſition to tyranny is not only defenſible, but meritorious; and that the welfare and dignity of a nation depend upon their firm and intrepid adherence to the great principles of public freedom, of juſt and equal liberty."

The Revolution took place in 1688; how long is that ago this preſent year 1795? *Anſ.* 107 years.

No. 58. BANKRUPT. A bankrupt is a perſon in debt beyond the power of payment; the term is ſuppoſed by ſome to be derived from the Italian *banco rotto*, *broken bench*; while others aſſert, that it comes from the French *banqueroute*, which ſignifies a breaking or failing in the world. The ſupporters of the former etymology aſſign the ſubſequent plauſible relation in favour of their opinion. The bankers, or money-changers of Italy, had *benches* in the exchange, and other public places, on which they told their money, and wrote their bills of exchange; and when any one became inſolvent, his *bench was broken*, to advertiſe the public, that he was no longer in a condition to continue his buſineſs.

Suppoſe the effects of a bankrupt amount to £500, and he owes to A £300 19*s.* 6*d.* to B £519 7*s.* 6*d.* to C £218 14*s.* 5*d.* and to D £25 10*s.* what is the deficiency? *Anſ.* £564 11*s.* 5*d.*

No. 59.

No. 59. MERCHANTS. Merchants are perſons who traffic to foreign countries; and there are not, as Mr. Addiſon juſtly remarks, more uſeful members in a commonwealth than merchants. They knit mankind together in a mutual intercourſe of good offices, diſtribute the gifts of nature, find work for the poor, augment the wealth of a nation, and increaſe the comforts and conveniencies of life. Our Engliſh merchant converts the tin of his own country into gold, and exchanges his wool for rubies. The Mahometans are clothed in our Britiſh manufacture, and the inhabitants of the frozen zone warmed with the fleeces of our ſheep. "How ſuperior, ſays an ingenious writer, is ſuch a man, in the eye of reaſon and of heaven, to the NOBLE of a thouſand years, who has received his hereditary poſſeſſions without a ſingle effort of his own, and enjoys them, even in the moſt favourable deſcription, under the influence of hereditary pride, elegant paſſion, or refined luxury!"

To cenſure trade,
Or hold her buſy people in contempt,
Let none preſume.
Trade to the good phyſician gives his balms;
Gives cheering cordials to th' afflicted heart;
Gives to the wealthy delicacies high;
Gives to the curious works of nature rare;
And when the prieſt diſplays, in juſt diſcourſe,
HIM, the all-wiſe CREATOR, and declares
His preſence, pow'r, and goodneſs, unconfin'd,
'Tis trade, attentive voyager, who fills
His lips with argument.

DYER.

Suppoſe a merchant commencing buſineſs with £10,000, gains £1,099 15*s.* 6*d.* in the courſe of a year, and at the expiration of that period diſtributes in "meek-eyed, heaven-deſcended charity" the ſum of £114 16*s.* 4*d.* what is the balance remaining in hand? *Anſ.* £10,984 19*s.* 2*d.*

No. 60. POST-CHAISES. Poſt-Chaiſes were invented by the French, and, according to Mr. Granger, introduced into England by Mr. William Tull, ſon of the well-known writer on huſbandry. A ſort of light, open chaiſe, chariot, or calaſh, was, however, in uſe among the Romans, and ſaid to have been invented by the Emperor Auguſtus, or Trajan.

If a poſt-chaiſe and pair of horſes coſt £120 10*s.* and the latter be valued at £52 12*s.* what is the price of the chaiſe? *Anſ.* £67 18*s.*

No. 61. SEDAN-CHAIRS. Sedan-Chairs were firſt introduced in London in 1634, when Sir Sanders Duncomb obtained the ſole privilege to uſe, let, and hire a number of ſuch covered chairs, for fourteen years. Dr. Johnſon, in his Dictionary, conjectures, that they were originally made at Sedan, a ſtrong city in the department of the Ardennes, and late province of Champaigne, France. The firſt ſedan-chair ſeen in England was in the reign of James I. and was uſed by the

the duke of Buckingham; to the great indignation of the people, who exclaimed, *that he was employing his fellow-creatures to do the ſervice of beaſts.*

Suppoſe an American merchant ſhould remit goods to his correſpondent in London to the amount of £200, with orders for one ſedan-chair at £25 10*s.* another at £18 18*s.* and a third at £42, to be ſent in return, how much would remain due to the American? *Anſ.* £113 12*s.*

MULTIPLICATION

IS a compendious kind of addition, conſiſting of three terms called the MULTIPLICAND, MULTIPLIER, and PRODUCT. The firſt is the number given to be multiplied; the ſecond that by which the work is performed; and the third the reſult of the operation.

EXAMPLES.

No. 62. ANNUAL REVOLUTION OF THE EARTH. The earth on which we live is nearly of a ſpherical form*. This is demonſtrated by its ſhadow in eclipſes of the moon being bounded by a circular line; by the manner of ſeeing objects at a diſtance, their ſummits being viſible when their baſes are intercepted by the horizon; and, laſtly, by the ſeveral voyages which have been made round it.

A form orbicular how fit to weigh
The golden gift of light and heat to all
The ſcatter'd diſtricts with impartial ſcale!
Hence too the waters, thoſe meand'ring veins
O'er the earth's body interſpers'd, with juſt
Partition flow ſalubrious. To the winds,

* I have ſaid nearly of a ſpherical form, becauſe it has been diſcovered that the earth, though nearly a ſphere, or ball, is not perfectly ſo. This matter occaſioned conſiderable diſputes between the philoſophers of the laſt century, among whom Sir Iſaac Newton and Caſſini, a French aſtronomer, were the heads of two different parties. Sir Iſaac demonſtrated from mechanical principles, that the earth was an oblate ſphere, or that it was flatted at the poles, or north and ſouth points, and jutted out towards the equator. The French philoſopher aſſerted quite the contrary. But the matter was put to a trial by the king of France in 1736, who ſent out a company of mathematicians and aſtronomers towards the north pole, and likewiſe towards the equator, in order to meaſure a degree, or the 360th part of a great circle in theſe different parts; and, from their report, the opinion of Sir Iſaac Newton was confirmed beyond diſpute.

Balmy refiners of the winnow'd air,
This moſt commodious figure yields a paſs
Free, unobſtructed. Had another ſhape
Been giv'n, impending angles had oppoſed
The breezy currents, and mankind had droop'd
Sickly, and faint from th' intercepted gale.

BALLEY.

The earth has two motions; one round its own axis, which is performed in twenty-four hours: the other round the ſun, which it accompliſhes in a year. Aſtronomers aſſert, that, in the laſt-mentioned courſe, it moves with the velocity of 68,000 miles an hour. How many miles, according to this calculation, does it travel in its annual revolution, admitting the year to contain 8,766 hours? *Anſ.* 596,088,000 miles!!

No. 63. COACHES. Coaches, as well as almoſt all other kinds of carriages which have been ſince made in imitation of them, were invented by the French, and the uſe of them is of modern date. Under Francis I. who was contemporary with our Henry VIII. there were only two coaches; that of the queen, and that of Diana, natural daughter of Henry II. The kings of France before they uſed theſe machines, travelled on horſeback; the princeſſes were carried in litters, and ladies rode behind their ſquires. Till about the middle of the laſt century there were but few coaches in Paris; but prior to the late revolution in that capital, they were eſtimated at 15,000, excluſive of hackney-coaches, and thoſe let out for hire.

The introduction of coaches into England is aſcribed by Mr. Anderſon, in his Hiſtory of Commerce, to Fitz-Allen, earl of Arundel, in the year 1580; and about the year 1605, they were in general uſe among the nobility and gentry in London.

In the beginning of the year 1619, the earl of Northumberland, who had been impriſoned ever ſince the Gunpowder-Plot, obtained his liberation. Hearing that Buckingham was drawn about with ſix horſes in his coach (being the firſt that was ſo) the earl put on eight to his, and in that manner paſſed from the Tower through the city.

Rapin, vol. viii. *p.* 156.

Hackney-coaches, which, according to Maitland, obtained this appellation from the village of HACKNEY, firſt began to ply in the ſtreets of London, or rather to wait at inns, in 1625, and were then only twenty in number. So rapid, however, has been their increaſe ſince that period, that London and Weſtminſter now contain 1000, each of which pays to government 10*s.* a week.

Suppoſing each coach to earn 14*s.* a day on an average, which is deemed a very moderate computation, the ſum of £700 ſterling is expended daily in the metropolis, in coach-hire, excluſive of what is ſpent in glaſs-coaches, or unnumbered ones. What is the weekly, monthly, and yearly expenditure in the uſe of theſe vehicles? *Anſ.* £4,900 per week; £19,600 per month; and £255,500 per year; reckoning 13 months 1 day to the year.

MULTIPLICATION

MULTIPLICATION OF MONEY,

OR

COMPOUND MULTIPLICATION.

MULTIPLICATION of money, applied to buſineſs, teaches how to find the value of any propoſed number of yards, pounds, &c. at any given price per yard, per pound, &c.

RULE. Multiply the price of one yard, pound, &c. by the number of yards, pounds, &c. the value of which is required in the queſtion.

EXAMPLES.

No. 64. ANCHOVIES. The anchovy is a ſmall ſea-fiſh, much uſed by way of ſauce or ſeaſoning. It is caught in the months of May, June, and July, in the Mediterranean, on the coaſts of Catalonia in Spain, and the late province of Provence, now forming the departments of Var, the Lower Alps, and the mouths of the Rhone, in France; and particularly near the ſmall iſland of Gorgona in the Tuſcan ſea, adjacent to Leghorn.

In years of plenty 20,000 quintals of anchovies have been exported in a year from Malaga.

Mr. Townſend's Journey through Spain, vol. iii. *p.* 30.

What is the value of two pounds of anchovies at 2*s.* 7*d.* ¼. per pound? *Anſ.* 5*s.* 3*d.* ½.

No. 65. CAPERS. Capers are pickled and brought to England annually from Italy, and the Mediterranean; particularly from about Toulon, in the ſouth of France; from whence it is ſaid the greateſt part of the capers ſold throughout Europe are brought; excepting ſome ſmall ſalt ones from Majorca, and a few flat ones from about Lyons. The plant which produces them is a low ſhrub, which generally grows among rubbiſh, and out of the joints of old walls, and the fiſſures of rocks.

> Capers from the rock, that prompt the taſte
> Of Luxury.
>
> DYER.

Lady Craven, who ſtyles the caper a pretty ſtinking creeper, ſays it grows wild where it is permitted to take root: and Dr. Smollett obſerves, that this plant requires no culture. In England broom-buds are frequently ſubſtituted for capers.

Capers

Capers are chiefly uſed in ſauces, but ſometimes in medicine, as being very aperitive, and employed in certain compoſitions for diſeaſes of the ſpleen.

What is the value of 3 pots of capers at 3*s*. 4*d*. per pot? *Anſ.* 10*s*.

No. 66. CAT-GUT. This is a denomination given to ſmall ſtrings for fiddles and other inſtruments, made of the inteſtines of ſheep or lambs dried and twiſted, either ſingly, or ſeveral together. They are uſed alſo by watch-makers, cutlers, turners, and other artificers. Great quantities are made at Lyons in France, and in Italy.

What is the value of 4 rings of fiddle-ſtrings at 6*d*. $\frac{3}{4}$. each? *Anſ.* 2*s*. 3*d*.

No. 67. CORK. Cork is the bark of a tree of the ſame name, a ſpecies of the oak. It grows in great abundance on the Pyrenean mountains and in other parts of Spain, in France, and in the north of New England. The Spaniards make what we call *Spaniſh black*, uſed by painters, of burnt cork. The Egyptians made coffins of cork, which being lined with a reſinous compoſition, preſerved dead bodies uncorrupted. But the chief employ of cork is to put in ſhoes, ſlippers, &c. and particularly to ſtop bottles.

Be ſure, nay very ſure, thy cork be good;
Then future ages ſhall of Peggy tell,
That nymph who brew'd and bottled ale ſo well.

KING.

What are five groſs of corks worth, at 3*s*. 9*d*. $\frac{3}{4}$. per groſs? *Anſ.* 19*s*. 0*d*. $\frac{3}{4}$.

No. 68. CAMBLET. Camblet is a ſtuff ſometimes made of wool, ſometimes of ſilk, and ſometimes of hair, eſpecially that of goats, with wool or ſilk. The true or oriental camblet is fabricated from the pure hair of a ſort of goat, deſcribed by travellers as an extraordinary ſpecies, the moſt beautiful in the world; their hair being of a ſilvery whiteneſs, as fine as ſilk, and naturally curled in locks eight or nine inches in length.

Mr. Tournefort aſſerts, that theſe goats are peculiar to Angora, in Turkey in Aſia, and the adjacent diſtricts; a declaration ſanctioned by the concurrence of Mr. Coxe.

Trav. vol. iii. *p.* 413.

We have no camblets made in Europe of the goats hair alone; it being found neceſſary to add a mixture of woollen thread. England, France, Holland, and Flanders, are the chief places of this manufacture. But Bruſſels exceeds them all in the beauty and quantity of its camblets; and thoſe of England are reputed the ſecond.

Some give the name of mohair to the camblets or ſtuffs made of the hair now under conſideration.

What is the value of 6 yards of camblet at 2*s*. 11*d*. $\frac{1}{2}$. per yard? *Anſ.* 17*s*. 9*d*.

No. 69,

No. 69. BRAWN. Brawn, in the culinary art, ſignifies the fleſhy, or muſculous parts of a hog, boned, rolled up, or collared, boiled, and, laſtly, pickled for winter uſe.

Canterbury and Shrewſbury have been long noted for the ſuperior quality of their brawn; and of late brawn has been made at Oxford.

What are 7 collars of brawn worth, at 19*s*. 11*d*. $\frac{3}{4}$. per collar? *Anſ.* £6 19*s*. 10*d*. $\frac{1}{4}$.

No. 70. COTTON. Cotton is a plant or ſhrub of which there are ſeveral varieties, and not a few diſtinct ſpecies, propagated in the gardens of the curious among us.

The common ſort is the herby or ſhrubby cotton, which is cultivated very plentifully in Candia, Lemnos, Cyprus, Malta, Sicily, Naples, and alſo between Jeruſalem and Damaſcus, whence the cotton is brought annually into theſe northern parts of Europe. It is ſown on ploughed lands in ſpring, and cut down as our corn in harveſt time, being an annual plant.

The cotton is the wool which encloſes or wraps up the ſeeds, and is contained in a kind of brown huſk or ſeed-veſſel, growing upon this ſhrub. It is from this ſort that the vaſt quantities of cotton are taken that furniſh our parts of the world. One very fine ſort of cotton is a native of the Eaſt and Weſt-Indies: and there are two ſorts of cotton trees which grow in Egypt, and often arrive to a great ſize.

Cotton makes a very conſiderable article of commerce; being uſed for various purpoſes, and furniſhing various cloths, muſlins, calicoes, dimities, and hangings; beſides that it is frequently joined with ſilk and flax, in the compoſition of other ſtuffs.

What are 8 pounds of cotton worth at 2*s*. 8*d*. $\frac{1}{2}$. per pound? *Anſ.* £1 1*s*. 8*d*.

No. 71. FIGS. Figs are a luſcious ſoft fruit, the produce of the fig-tree. They are moderately nouriſhing, grateful to the ſtomach, and eaſier of digeſtion than any of the other ſweet fruits; and accordingly are uſed in medicine, as ingredients in pectoral decoctions, and in lenitive electuaries. They are alſo applied externally, to ſoften, digeſt, and promote maturation.

The beſt figs are the produce of Turkey, Italy, Spain, the ſouthern part of France, &c. The iſlands in the Archipelago yield figs in great abundance, but of an inferior quality.

The ancients made uſe of the juice or ſap of a fig for rennet, to cauſe their milk to coagulate.

> The fig's preſt juice, infus'd in cream,
> To curds coagulates the liquid ſtream.
>
> POPE'S Homer.

What is the value of nine pounds of figs at 7*d*. $\frac{1}{2}$. per pound? *Anſ.* 5*s*. 7*d*. $\frac{1}{2}$.

No. 72,

No. 72. FULLERS-EARTH. Fullers-earth is a marle of close texture, extremely soft and unctuous to the touch: when dry it is of a greyish brown colour, in all degrees, from very pale to almost black, and generally has a greenish cast in it. It is dug in great plenty in several parts of England; but the greatest quantity and the finest earth of this kind in the world is found near Wooburn in Bedfordshire. Our superiority in the goodness of this valuable article is assigned as one great reason why the English surpass all other nations in the woollen-manufacture: it being absolutely necessary for the well dressing of cloth.

> The fleece prepar'd, which oil-imbibing earth
> Of Wooburn blanches.
>
> DYER.

On this account it is made a contraband commodity, and the exportation made equally criminal with that of exporting wool.

When mixed with vinegar, fullers-earth dispersés pimples, checks inflammations, and cures burns.

What are 10 bushels of fullers-earth worth at 1*s.* 9*d.* ½. per bushel? *Ans.* 17*s.* 11*d.*

No. 73. INDIGO. Indigo is a plant chiefly cultivated in the English plantations in America, and by the French; though the Jamaica wild indigo, and the Carolina indigo, have been used with advantage. From this plant is extracted a dyer's drug, of a deep blue colour, brought to us from the West-Indies and America. It is also made in the East-Indies, particularly in the dominions of the Great Mogul, and this is said to be the best.

The indigo of the West-Indies probably derived its origin, as it doubtless does its name, from the elder India of the East, where it has long stamped its brilliant and beautiful dyes on the fine linens and calicoes manufactured in the looms of that most ancient empire. Native of a fiery clime, this plant will shoot vigorously amid the sands of those parched and barren savannahs in which other vegetables would inevitably perish; nor does it wholly expire when deprived, for long intervals, of those genial dews and refreshing rains which, at times descending in grateful abundance, flush with such transcendent verdure and beauty the luxuriant valleys and painted gardens of the gaudy tropic.

Indigo is used by dyers, calico-printers, and sometimes by painters, for paper hangings; and, finally, by laundresses to impart a bluish cast to their linen.

What are 11 pounds of indigo worth at 2*s.* 3*d.* ½. per pound? *Ans.* £1 5*s.* 2*d.* ½.

No. 74. IPECACUANHA. This American root is the mildest and safest emetic that has yet been discovered. It is a little wrinkled root about the thickness of a moderate quill; rough, dense, and firm. One sort is of a dusky greyish colour, on the surface, and of a paler grey when broken, brought from Peru, by way of Porto-Bello: the other,

other, is a ſmaller root, reſembling the former; but of a deep duſky brown on the outſide, and white when broken, growing plentifully in the Braſils, eſpecially about Carthagena. The grey is moſt eſteemed in phyſic; though the brown is moſt uſed, as being moſt eaſily procured. There are ſeveral falſe ſpecies of this root, which are ſometimes ſold in its ſtead. The genuine ipecacuanha has ſcarcely any ſmell, unleſs during its pulverization or infuſion in liquor, when it emits a faint nauſeous one.

What is the value of 11 pounds of ipecacuanha at £1 9*s*. 11*d*. ½. per pound? *Anſ.* £16 9*s*. 6*d*. ½.

N. B. This root is ſometimes ſold at 3*s*. 6*d*. or 4*s*. per pound.

No. 75. Liquorice. This plant is principally cultivated, in this country, about Pontefract in Yorkſhire; Godalmin in Surrey; and in the gardens about London.

The native liquorice juice is very ſweet upon the palate, even more ſo than ſugar, or honey; and is yet accounted a great quencher of thirſt. It is very balſamic and detergent; inſomuch that there is ſcarcely any medicinal compoſition for diſeaſes of the breaſt, in which it is not an ingredient.

Great quantities of liquorice are exported from Spain into England. In 1785 no leſs than 58 tons of this innocent and pleaſant drug were ſent out of that country to us; and the whole quantity imported into this kingdom from Flanders, Italy, and Spain, in 1788, was upwards of 183 tons; principally for the uſe of the brewers.

Townſend's Journey into Spain, vol. ii. *p.* 333.

What is the value of 12 pounds of liquorice at 1*s*. 1*d*. ½. per pound? *Anſ.* 13*s*. 6*d*.

Rule II. When the number of articles whoſe value is required exceeds 12, as in the ſubſequent queſtions, multiply ſucceſſively by its component parts; i. e. by any two figures which, multiplied into each other, produce the given number.

No. 76. Log-Wood. Log-wood grows naturally in the bay of Campeachy, at Honduras, and other parts of the Spaniſh Weſt-Indies. It is brought into Europe, and employed in dying purples, and the fineſt blacks. It is conſidered as a very valuable commodity; for, excluſively of its uſe among dyers, it is found to be an excellent aſtringent, and is adminiſtered in many diſorders proceeding from the laxity of the ſolids.

What are 14 pounds of log-wood worth at 1*s*. 4*d*. ½. per pound? *Anſ.* 19*s*. 3*d*.

No. 77. Mace. This unctuous membrane envelops the ſhell of the fruit, whoſe kernel is the nutmeg. It is of an extremely fragrant, aromatic, and agreeable ſmell, and of a pleaſant, but acrid and oleaginous taſte. Mace is of an aſtringent and drying nature, and is uſed as a corrector in cardiac and cathartic compoſitions. Its general

general qualities are nearly ſimilar to thoſe of the nutmeg, with the exception of its ſitting eaſier on weak ſtomachs. It is brought into Europe from Amboyna, a ſmall iſland in the Eaſt-Indies belonging to the Dutch.

What are 15 ounces of mace worth at 3*s*. 6*d*. per ounce? *Anſ.* £2 12*s*. 6*d*.

No. 78. NUTMEG. This is a delicate kind of aromatic fruit which is encloſed in four different covers (one of which is called MACE); and is itſelf properly the kernel. The nutmeg is very much uſed in our foods, and is of excellent virtues as a medicine; it is a good ſtomachic, promotes digeſtion, ſtops vomiting; is an excellent remedy in flatulences; and is happily joined with rhubarb and other medicines, in the caſe of diarrhœas. It has alſo a ſoporific and aſtringent quality. The largeſt, heavieſt nutmegs are to be choſen; ſuch as are of the ſhape of an olive, well marbled without ſide, reddiſh within, unctuous in ſubſtance, and of a fragrant ſmell. By diſtillation they yield an oil of great uſe in medicine.

The whole commerce of nutmegs is in the hands of the Dutch Eaſt-India company. See *Amboyna*.

What are 20 ounces of nutmegs worth at 3*s*. 5*d*. $\frac{3}{4}$. per ounce? *Anſ.* £3 9*s*. 7*d*.

No. 79. MANGO. This is the fruit of a large tree, growing in the iſle of Java, and other parts of the Eaſt-Indies, and conveyed into Europe either candied or pickled. In the latter caſe it is opened with a knife, and the middle filled up with freſh ginger, garlick, muſtard, and ſalt, with oil or vinegar.

This fruit, when ripe, is eaten by the natives, either without wine, or macerated in wine. The bark and gum of the tree are alſo uſed medicinally. The ſtalks calcined are ſaid to take away warts.

What are 25 mangos worth at 1*s*. 3*d*. $\frac{1}{2}$. each? *Anſ.* £1 12*s*. 3*d*. $\frac{1}{2}$.

No. 80. MANNA. Manna is a medicinal drug of great uſe in the modern practice, as a gentle purgative. It is a white, ſweet juice, oozing from the branches and leaves of a kind of aſh-tree, growing chiefly in Calabria, in the ſouthern part of Italy. It is, however, far from being peculiar to this tree, being found on many different ſorts, particularly at Briançon, in France. Manna is therefore ranked very properly among the number of gums.

The peaſants of mount Libanus*, it is ſaid, eat manna ordinarily, as others do honey; and at Mexico they have a manna which they eat as we do cheeſe.

The beſt ſort, or Calabrian manna, is moderately dry, very light, of a whitiſh, or pale yellow colour, and in ſome degree tranſparent: the inferior kinds are moiſt, unctuous, and brown. It is ſometimes

* Libanus is a mountain of Turkey, in Aſia, formerly famous for cedar-trees; but now there are ſcarcely any remaining.

counterfeited

counterfeited by compoſitions of ſugar, honey, and purgative materials.

What are 27 ounces of manna worth at 6*d.* ¼. per ounce? *Anſ.* 15*s.* 2*d.* ¼.

No. 81. JESUS CHRIST BETRAYED. The preaching of our bleſſed Saviour, and the numberleſs miracles that he performed, made ſuch an impreſſion on the body of the Jewiſh nation, that the *chief prieſts*, and *leading men*, jealous of his authority, and provoked at his reproaching them with their hypocriſy and the wickedneſs of their lives, formed a conſpiracy againſt him. For a conſiderable time their deſigns proved abortive; but at laſt Jeſus, knowing that he had fulfilled every purpoſe for which he came into the world, ſuffered himſelf to be taken through the treachery of one of his own diſciples, named *Judas Iſcariot*. This "baſe Judean," as Shakeſpeare is ſuppoſed to have termed him, received 30 pieces of ſilver as the reward of his perfidy. Theſe, ſome commentators apprehend to have been 30 ſhekels; others, that they were 30 denarii, or Roman pence. Eſtimating the former at 2*s.* 6*d.* each, and the latter at 7*d.* ½. which is the uſual valuation, how much did the traitor receive according to each of theſe ſupputations? *Anſ.* £3 15*s.* if ſhekels; 18*s.* 9*d.* if denarii.

N. B. Some value the ſhekel at 2*s.* 9*d.* ½; others at 2*s.* 3*d.* $\frac{3}{16}$ ſterling; and the Roman denarius is eſtimated from 6*d.* to 8*d.* ½. ſterling.

No. 82. CYPRUS. This is a thin tranſparent black ſtuff, ſuppoſed to have received its name from the iſland of Cyprus in the Mediterranean, where it was firſt made; or corruptly from *Cypreſs*, as being uſed in mourning*.

Lawn, as white as driven ſnow,
Cyprus, black as e'er was crow.

SHAKESPEARE.

What are 36 yards of cyprus gauze worth at 3*s.* 9*d.* ¼. per yard? *Anſ.* £6 17*s.* 3*d.*

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* The cypreſs tree being anciently uſed in funerals, was the emblem of mourning.

Poiſon be their drink,
Their ſweeteſt ſhade a grove of cypreſs trees.

SHAKESPEARE.

The cypreſs tree is an evergreen, and never either rots or is worm-eaten, any more than cedar or ebony. It is good for making muſical inſtruments, cheſts, &c.

In ivory coffers I have ſtuff'd my crowns;
In cypreſs cheſts my arras counterpanes.

SHAKESPEARE.

Some are of opinion, that the wood, gophir, of which Noah's ark was made, was cypreſs; and the Athenians buried their heroes in coffins made of this wood; of which many of the Egyptian mummy cheſts were alſo fabricated.

No. 83. SATIN. Satin is a ſoft, cloſe, and ſhining ſilk.

The ladies dreſs'd in rich ſymars* were ſeen,
Of Florence ſatin, flower'd with white and green.

DRYDEN.

What is the value of 42 yards of ſatin at 8*s.* 4*d.* ¼. per yard? *Anſ.* £17 10*s.* 10*d.* ½.

No. 84. MELONS. Melons are a ſpecies of the cucumber. There is a great variety of this fruit cultivated in different parts of the world; but that ſort called the Cantaleupe melon, ſo denominated from a place near Rome, whither it was brought from Armenia, a country weſt of the Caſpian ſea in Aſia, is in the greateſt eſteem among the curious.

What are 49 melons worth at 2*s.* 6*d.* each? *Anſ.* £6 2*s.* 6*d.*

RULE III. When the number of articles, whoſe price is required, cannot be obtained by the multiplication of any two figures into each other, as in the following queſtions, find the neareſt to it, which can be ſo produced, and multiply the given price by the component parts, as before; then multiply the top line of the ſum (which is the value of one yard, &c.) by the deficiency, which, added to the preceding part of the operation, will give the value of the whole. The ¼, ½, and ¾, muſt be taken as ſo many parts of the top line, or price of one yard, pound, &c. and added to the laſt line of the ſum.

No. 85. MILLET. An eſculent grain, chiefly uſed among us in puddings; but the Italians make loaves and cakes of it, which, when eaten hot, are much eſteemed for their ſweetneſs. It grows naturally in India, whence we are furniſhed with it annually; but it is cultivated in many parts of Europe. Millet is refrigerating and drying, difficult of digeſtion, and generates flatulencies. It has, however, ſome good qualities. A decoction of this grain, with figs and raiſins, is ſaid to be a noble ſudorific and diuretic; and millet ſeeds are of extraordinary ſervice in diſeaſes of the lungs.

What are 58 pounds and ¼ of millet worth at 6*d.* ¾. per pound? *Anſ.* £1 12*s.* 9*d.*

No. 86. VIRTUE ALONE IS TRUE NOBILITY. It was well obſerved by the emperor Maximilian, to a man who requeſted to be ennobled, "that though he could give riches and a title, he could not make him noble." The genuine idea of nobility contains in it, ſays Dr. Knox, generoſity, courage, ſpirit, and benevolence, the qualities of a warm and open heart, totally unconnected with the accidental advantages of riches and honour; and according to this definition, there is many a nobleman even at the loom, at the plough,

* Simarre, ſorte d'habit de femme qui étoit en uſage parmi les Perſans. RICHELET.

and

and in the ſhop; and many more in the middle ranks of mixed ſociety.

" The pride of family is all a cheat,
" The virtuous only are the truly great."

Whoe'er amidſt the ſons,
Of reaſon, valour, liberty, and virtue,
Diſplays diſtinguiſh'd merit; he's a noble
Of Nature's own creating.

THOMSON.

Of all the effects of man's capricious admiration, continues our ingenious author, there are few leſs rational, than the preference of illuſtrious deſcent to perſonal merit, of diſeaſed and degenerate nobility to health, to courage, to learning, and to virtue. It may, therefore, be rationally concluded, that in proportion as the world becomes more enlightened, the exorbitant value, which has been placed on things not really valuable, will decreaſe, and that mankind will at length bear their willing teſtimony to the truth of Pope's well-known lines, that

Worth makes the man, and want of it, the fellow;
The reſt is all but leather or prunello.

Prunello is a kind of ſtuff, of which the gowns of clergymen are made.

What is the value of $65\frac{1}{2}$ yards of prunello at 5*s*. 3*d*. $\frac{1}{4}$. per yard? *Anſ.* £17 5*s*. 2*d*. $\frac{3}{4}$.

No. 87. MITHRIDATE. This is an antidote, in form of an electuary; ſerving either as a remedy, or a preſervative againſt poiſons. It is one of the capital medicines of the ſhops, conſiſting of a vaſt number of ingredients, and is accounted a cordial, opiate, ſudorific, and alexipharmic. It takes its name from its inventor, Mithridates, king of Pontus, who is reported to have ſo fortified his body againſt poiſons, with antidotes and preſervatives, that when he had a mind to diſpatch himſelf, he could not find any poiſon that would take effect. The recipe for making it was found in his cabinet, written with his own hand, and was carried to Rome by Pompey.

What are $74\frac{3}{4}$ ounces of mithridate at 4*d*. $\frac{1}{4}$. per ounce? *Anſ.* £1 6*s*. 5*d*. $\frac{1}{2}$.

No. 88. MOHAIR. Mohair, in commerce, is thread or ſtuff made of the hair of the Angora goat. See queſtion 68. Camblet.

What is the value of $89\frac{1}{4}$ dozen of mohair buttons at 1*s*. 1*d*. $\frac{1}{2}$. per dozen? *Anſ.* £5 0*s*. 4*d*. $\frac{3}{4}$.

No. 89. MUSK. A dry, light, and friable ſubſtance, of a dark blackiſh colour, feeling ſomewhat ſmooth, or unctuous. Its ſmell is highly perfumed, and too ſtrong to be agreeable in any large quantity; on which account it is moderated by the mixture of ſome other perfume. It is brought from the Eaſt-Indies, chiefly from the kingdom

dom of Bantam in the iſland of Java, ſome from Tonquin and China; but that in moſt eſteem comes from the kingdom of Tibet. The animal which produces it is of a very ſingular kind, not agreeing with any eſtabliſhed genus: it is of the ſize of a common goat but taller. The bag which contains the muſk is ſituated under the creature's belly, and about the bigneſs of a hen's egg. Theſe animals inhabit the woods and foreſts, where the natives hunt them down.

Muſk is of conſiderable uſe among the perfumers and confectioners; and is alſo employed medicinally in ſpaſmodic diſorders, fevers, &c. and particularly in convulſive complaints. The effects of muſk are, eaſe from pain, quiet ſleep, and a copious diaphoreſis. It does not, like opium, leave behind it any ſtupor or languidneſs.

What are $95\frac{1}{2}$ ounces of muſk worth at £2 2*s*. 3*d*. per ounce? *Anſ.* £201 14*s*. 10*d*. $\frac{1}{2}$.

No. 90. MYRRH. A kind of gum reſin, iſſuing, by inciſion, and ſometimes ſpontaneouſly, from a tree growing in Arabia, Egypt, and eſpecially in Abyſſinia. It is ſent to us in looſe granules from the ſize of a pepper-corn to that of a walnut, of a reddiſh brown colour, with more or leſs of an admixture of yellow: its taſte is bitter and acrid, with a peculiar aromatic flavour, but very nauſeous: its ſmell is ſtrong but not diſagreeable. Our myrrh is the very drug known by the ancients under the ſame name. It enters into a great number of medicinal compoſitions: it is a warm corroborant, deobſtruent, and antiſeptic, and is often employed externally as a vulnerary. The bitterneſs of myrrh renders it good for the ſtomach and againſt worms; and it is chewed to prevent infection from contagious diſeaſes. It makes the principal ingredient in embalming.

What are $105\frac{3}{4}$ ounces of myrrh worth at 1*s*. 0*d*. $\frac{1}{2}$. per ounce? *Anſ.* £5 10*s*. 1*d*. $\frac{3}{4}$.

No. 91. OLIVES. Olives are the fruit of a tree which is the emblem of peace.

> To thee, heaven, in thy nativity,
> Adjudg'd an olive branch and laurel* crown,
> As likely to be bleſs'd in peace and war.
>
> SHAKESPEARE.

Pickled olives are grateful to the ſtomach, and are ſuppoſed to promote appetite and digeſtion: the ripe ones are more eaten among the Greeks, forming a conſiderable part of their food, eſpecially in Lent. There are three kinds of olives frequently ſold, different in ſize and goodneſs; viz. thoſe of Verona, in the northern part of Italy, thoſe of Spain, and thoſe of the ſouthern part of France. The olives, while on the tree, are intolerably bitter; that grateful taſte, which

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* The laurel, meed of mighty conquerors,
And poets ſage.

SPENSER.

procures

procures them admittance at the richeſt tables, is given to them in pickling.

What are 112 pints of olives worth at 1*s*. 7*d*. ½. per pint? *Anſ.* £9 2*s*. 0*d*.

No. 92. Oil of Olives. Olives yield an oil which is the moſt popular, and moſt univerſal of all others; being that chiefly uſed in medicine, in foods, ſalads, and in various manufactures. It is drawn from the fruit by preſſes, or mills made for the purpoſe. The conſumption of this oil is incredible; and it is reputed one of the moſt uſeful things in the whole world. The ſweeteſt, and what we eſteem moſt, comes from the ſouthern part of France; but vaſt quantities are imported from Florence and Lucca. At this laſt place Mrs. Piozzi mentions having eaten ſome ſalad-oil of a green colour, like Iriſh uſquebaugh, than which ſhe obſerves nothing was ever more excellent.

Journey, vol. i. *p.* 341.

It was the cuſtom of the Jews to anoint with oil perſons appointed to high offices, as the prieſts and kings. See Pſalms cxxxiii. 2. 1 Sam. x. 1. xvi. 13. The anointing with this liquid ſeems alſo to have been reckoned a neceſſary ingredient in a feſtival dreſs. See Ruth iii. 3.

The Jews moreover ſeem to have regarded oil as a more efficacious and ſovereign remedy than any other diſcovery, for mitigating or extirpating the various diſorders of the human frame. See Mark vi. 13. James v. 14. and Dr. Harwood's Introd. vol. ii. p. 126.

Oil, among its other good qualities, has the ſingular property of ſtilling the ſurface of the water, when it is agitated with waves. This extraordinary effect is mentioned by Pliny, and confirmed by experiments made by the celebrated Dr. Franklin.

> Oil on the ocean's troubled waters ſpread,
> Smooths the rough billow to a level bed.
>
> Hayley.

What are 118 flaſks of Florence oil worth at 2*s*. 9*d*. ¼. per flaſk? *Anſ.* £16 11*s*. 10*d*. ½.

No. 93. Spermaceti Oil. This is the oil of a particular kind of whale; diſtinguiſhed from the common whale by its having teeth in lieu of whale-bone; and by a bunch on its back. The oil is found in a large trunk, four or five feet deep, and ten or twelve long, filling almoſt the whole cavity of the head, and ſeeming to ſupply the office of brain and cerebellum. The oil drawn from the other parts of the fiſh now under conſideration, is of nearly three times the value of the common black whale oil. It is employed in lighting chamber lamps, &c. The common whale oil, as well as that of ſome other fiſh, is uſed for ſtreet lamps, &c.

What is the value of 125¼ quarts of ſpermaceti oil at 1*s*. 4*d*. per quart? *Anſ.* £8 7*s*. 0*d*.

No. 94. Spermaceti. This is a whitiſh, flaky, unctuous ſubſtance, prepared from ſpermaceti oil. It is of great uſe in medicine, being

being employed in inward hurts, bruiſes, &c. and is alſo applied externally; but its greateſt property, and that which makes it ſo much in vogue in many places, is its ſoftening the ſkin. Hence it is a component part of moſt paſtes, coſmetics, &c. Spermaceti candles are of modern manufacture: they are made ſmooth, with a fine gloſs, free from rings and ſcars, ſuperior to the fineſt wax candles in colour and luſtre; and, when genuine, leave no ſpot or ſtain on the fineſt ſilk, cloth, or linen.

What are 129½ pounds of ſpermaceti candles worth at 3*s*. 4*d*. ¼. per pound? *Anſ.* £21 19*s*. 9*d*.

No. 95. Opium. A narcotic, gummy-reſinous juice, drawn from the head of the white poppy, and afterwards inſpiſſated. It is of a dark reddiſh-brown colour in the maſs, and when reduced into powder, yellow: its ſmell is of a dead faint kind, and its taſte very bitter and very acrid.

Opium is brought from Natolia in Turkey in Aſia, Egypt, and the Eaſt-Indies, in flat cakes or irregular maſſes, from four to about ſixteen ounces in weight, covered with leaves, and generally impure.

Externally applied opium is emollient, relaxing, and diſcutient, and greatly promotes ſuppuration. A moderate doſe of it taken internally, is generally under a grain, yet cuſtom will make people bear a dram; and inſtances are mentioned of perſons who have taken ſeveral drams a day. Its firſt effect is that of making the patient cheerful; it removes melancholy, and diſſipates the dread of danger; the Turks always take it when they are going to battle: it afterwards quiets the ſpirits, eaſes pain, and diſpoſes to ſleep. After the effect is over, it has been ſaid, that the pain frequently returns in a more violent manner; the ſpirits become lower than before, and the pulſe languid. An immoderate doſe of opium brings on cheerfulneſs, loud laughter, and inebriation at firſt, and, after many terrible ſymptoms, even death itſelf. Thoſe who have accuſtomed themſelves to an immoderate uſe of opium, are apt to be faint, idle, and thoughtleſs; they loſe their appetite, and grow old before their time. The action of opium is, in many reſpects, very analogous to that of wine or vinous ſpirits; the good and ill effects are ſaid to differ but little.

It has, however, been obſerved, by an intelligent medical writer, that though opium, "taken in too large quantity, renders the nervous ſyſtem ſo totally inſenſible, and produces ſuch general relaxations, that lethargy, convulſions, and death, are the conſequences; yet, in a variety of caſes, given judiciouſly, it is one of our moſt noble remedies. It not only alleviates pain, procures ſleep, and takes off ſpaſmodic affections, when adminiſtered internally; but when applied externally, as in fomentations, cataplaſms, lotions, liniments, or injections, it produces the ſame conſequences."

What are 136¼ ounces of opium worth at 1*s*. 11*d*. ½. per ounce? *Anſ.* £13 7*s*. 9*d*. ½.

No. 96. Orange. The fruit of a tree of the ſame name. Thoſe in common uſe with us are the Seville and China oranges. The flowers

flowers of the Seville orange are highly odoriferous, and very juſtly eſteemed one of the fineſt perfumes.

> The punic granate op'd its roſe-like flow'rs;
> The orange breath'd its aromatic pow'rs.
>
> HARTE.

The juice of theſe oranges is a grateful acid, of great uſe in inflammatory and putrid diſorders, both acute and chronical; and the juice of the China, or ſweet orange, is an uſeful refrigerant in inflammatory diſpoſitions, and an excellent antiſeptic in ſcorbutic and other putrid diſorders. When Commodore Anſon ſailed round the world, his men were ſurpriſingly recovered from the ſcurvy, by the oranges which they found at the iſland of Tinian, one of the Ladrone iſlands in Aſia.

Oranges are ordinarily brought from Nice and Genoa in Italy, the iſles of the Hieres, and the adjacent parts of the ſouth of France, Portugal, the American iſlands, and even China, and the coaſts of India. The ſweet, or China orange, was firſt brought into Europe from that country by the Portugueſe; and it is aſſerted, that the identical tree, whence all the European orange trees of this ſort were produced, is ſtill preſerved at Liſbon, in the houſe of the Count S. Laurent. Thoſe moſt eſteemed, and which are made preſents of as rarities in India, are no bigger than a billiard-ball. The Malteſe oranges are, by ſome, ſaid to be the fineſt in the world.

What are 140 cheſts of oranges worth at £3 15*s*. 6*d*. per cheſt? *Anſ.* £528 10*s*.

No. 97. LEMON. A fruit brought from Spain and Portugal in great plenty. They are cooling and grateful to the ſtomach, quenching thirſt, and increaſing appetite; uſeful in fevers, as well common as malignant and peſtilential. The yellow rind is a grateful aromatic, and commonly uſed in ſtomachic tinctures and infuſions, and for rendering other medicines acceptable to the palate and ſtomach.

> Bear me, Pomona! to thy citron groves!
> To where the lemon and the piercing lime,
> With the deep orange, glowing through the green,
> Their lighter glories blend.
>
> THOMSON.

The citron is diſtinguiſhed from the lemon, in that it is bigger, and its pulp firmer. The diſtillers, confectioners, perfumers, &c. apply citrons to various purpoſes, and obtain from them eſſences, oils, confections, waters, &c.

Genoa is the great nurſery which ſupplies the ſeveral parts of Europe with this, as well as with the orange and lemon trees. One ſort, with a pointed fruit, is in ſo great eſteem, ſays Miller, that a ſingle citron is ſold at Florence for 2*s*. ſterling.

The lime is by ſome deemed a ſpecies of lemon, by others not. It is a much ſmaller fruit, and in the Weſt-Indies is greatly preferred to the lemon; the juice being reckoned wholeſomer, and the acid more

more agreeable to the palate. It is not often brought to England, nor is this fruit much cultivated in Europe.

What are $146\frac{1}{2}$ dozen of lemons worth at $11d.\ \frac{3}{4}$. per dozen? *Anſ.* £7 3*s*. 5*d*. $\frac{1}{4}$.

No. 98. PAPER. Paper is a thin flexible leaf, uſually white, artificially prepared, and chiefly uſed to write or print upon with ink. Various are the materials, on which mankind in different ages and countries have contrived to write their ſentiments; as on ſtones, bricks, the leaves of herbs and trees, and their rinds or barks; alſo on tables of wood, wax, and ivory; to which may be added plates of lead, linen rolls, &c. At length the Egyptian papyrus was invented; then parchment, then cotton paper, and laſtly, the common, or linen paper. Paper is chiefly made among us of linen, or hempen rags, beaten to a pulp in water, and moulded into ſquare ſheets of the thickneſs required. But it may alſo be made of nettles, hay, turnips, parſnips, colewort-leaves, aſbeſtos, or any thing that is fibrous; nay, it may be made of white woollen rags; though this would not ſerve for writing, becauſe of the hairineſs. The Egyptian paper, which was principally uſed among the ancients, was made of a ruſh called Papyrus, whence the word paper is derived. It grew principally about the banks of the Nile in Egypt; and in a baſket made of this ſpecies of ruſhes, Moſes, when a child, was expoſed on the borders of that celebrated river. Beſides paper, they made ſails, ropes, and other naval rigging, as alſo mats, blankets, cloths, and even boats, of the ſtalk of the papyrus. The manufacture of paper made of linen rags has got footing in moſt countries; though France, Holland, and Genoa, are the places where, at leaſt till lately, it has ſucceeded beſt. In general, it depends much on the quality of the linen worn in the country where it is made: where that is coarſe and brown, the rags, and conſequently the paper made of them, muſt be ſo likewiſe. Hence the whiteneſs of the Dutch and Flemiſh papers beyond the Italian and French, and much more the German papers. The Engliſh manufacture was a long while in no great reputation; but it is every day improving; inſomuch that we now import little of the ordinary ſorts, which were formerly all brought from abroad. The firſt paper-mill in England was erected at Dartford in the year 1588, by a High-German, called Mr. Spilman, jeweller to the queen. Nothing, however, but the brown coarſe ſort of paper was made in this country till about the year 1690, when the French Proteſtant refugees ſettled in England, and our own paper-makers began to make white writing and printing paper; and the perfection, to which it is ſince brought, is ſaid to produce a ſaving to England of much more than £100,000, which was paid annually to France for this article. When and by whom linen paper was invented, has been long and warmly conteſted among the learned; but ſeemingly with little ſucceſs, as nothing concluſive has yet been advanced on the ſubject. Some ſay it was diſcovered by the Germans; others affirm that the invention was owing to the Italians; others aſcribe it to ſome refugee Greeks at Baſil; others think the Arabs brought it among us; others imagine

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the Saracens of Spain firſt conveyed it out of the Eaſt into that country; from whence it was propagated through the reſt of Europe; and laſtly, others ſay, that the Chineſe have the beſt title to the invention; who for many ages have made paper much after the ſame manner; and even in ſome provinces, of the ſame materials, viz. hemp, &c. Linen paper appears to have been firſt introduced among us towards the beginning of the fourteenth century.

What are 151 reams of letter paper worth at 12*s.* 6*d.* ½. per ream? *Anſ.* £94 13*s.* 9*d.* ½.

No. 99. PARCHMENT and VELLUM. Parchment, ſheep or goats ſkin prepared after a peculiar manner, which renders it proper for ſeveral uſes; particularly for writing on, and for the covering of books, &c. The word is derived from the Latin Pergamena, the ancient name of this manufacture; which it is ſaid to have taken from the city Pergamos; and to Eumenes, king of that city, its invention is uſually aſcribed; though, in reality, that prince appears rather to have been the improver than the inventor of parchment: for the Perſians, and others, are ſaid to have written all their records on ſkins long before Eumenes's time. That called virgin parchment is a thinner and finer ſort than the reſt; and is uſed for fans, &c. and made of the ſkin of an abortive lamb or kid. What we call Vellum is only parchment made of the ſkins of abortive calves, or, at leaſt, of ſucking calves; it is finer, whiter, and ſmoother than the common parchment. Theſe articles conſtitute a conſiderable part of the French commerce, being made in moſt of their cities; and, beſides the conſumption at home, they ſend vaſt quantities abroad, particularly to England, Flanders, Holland, Spain, and Portugal.

What are 156 ſkins of parchment worth at 13*s.* 8*d.* ½. per ſkin? *Anſ.* £106 18*s.* 6*d.*

RULE IV. When the propoſed number of yards, pounds, &c. exceeds 156, multiply the given price by 10, and the reſult of that operation by 10, which will give the value of 100; then multiply the ſecond line, or product of 10, by the figure in the ten's place, and put the reſult under the value of 100; laſtly, multiply the given price by the figure in the units' place, and ſet the reſult under the two preceding products. Theſe ſeveral ſums, added together, will be the anſwer to the queſtion.

No. 100. PEPPER. Pepper is the product of a ſhrub, growing in ſeveral parts of the Eaſt-Indies, chiefly Java, Sumatra, Malacca, and the coaſts of Malabar. Black pepper is an aromatic fruit of a hot dry quality, chiefly uſed in the ſeaſoning of meats. White pepper is the fruit of the ſame plant with the black, and prepared from it by taking off the outer bark. Pepper, which is ſold ground, is very apt to be ſophiſticated, the black with burnt cruſt of bread, &c. the white with beaten rice.

Of theſe pungent ſpices the black ſort is the hotteſt and ſtrongeſt, and moſt commonly uſed for medicinal, as well as culinary purpoſes. Long pepper is thus denominated from its form, which is cylindrical, and about an inch and a half in length, and of the thickneſs of a large gooſe quill. It is of the ſame genus as the black pepper, but is hotter and more pungent. It is gathered while unripe and dried: its chief uſe is in medicine, where it enters ſeveral Galenical* compoſitions; and among the reſt Venice treacle.

Guinea pepper is much eſteemed by the Americans, from among whom it is brought: it is a native of the Eaſt and Weſt-Indies, and raiſed in ſome of our gardens. It is now alſo cultivated pretty commonly in France, eſpecially in the ſouthern parts, where it is uſed in making vinegar. It is of a red colour, and of an extremely pungent and acrimonious taſte. It is ſometimes given, in ſmall quantities, as one of the higheſt ſtimulants; but its principal uſe is at table. A ſpecies of this pepper is the baſis of the powder brought from the Weſt-Indies under the name of Cayenne pepper.

Jamaica pepper is the fruit of a tree growing plentifully in Jamaica, and other American iſlands. It is a real aromatic, and may ſupply the defect of cloves, nutmeg, and cinnamon; whence it is called by the Engliſh, all-ſpice, and ſometimes pimento. The French call it round clove, from its round ſhape, and from its taſte reſembling that ſpice. This pepper is accounted the beſt and moſt temperate, mild, and innocent, of common ſpices. It ſurpaſſes moſt of the Eaſt-India aromatics in promoting the digeſtion of meat, attenuating tough humours, moderately heating, ſtrengthening the ſtomach, expelling wind, and doing thoſe friendly offices to the bowels we generally expect from ſpices.

What are 164 pounds of pepper worth at 2*s*. 3*d*. $\frac{1}{4}$. per pound? *Anſ.* £18 19*s*. 3*d*.

No. 101. POTATOES. Potatoes are the moſt common eſculent root now in uſe among us; though little more than a century ago they were confined to the gardens of the curious, and preſented as a rarity. They form the principal food of the common people in ſome parts of Ireland.

> Leeks to the Welch, to Dutchmen butter's dear;
> Of Iriſh ſwains potatoes are the cheer.
>
> GAY.

Potatoes were originally brought from America, and, as has been aſſerted, by Sir Francis Drake, in the year 1586. Others mention

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* Galen was a celebrated phyſician, born at Pergamus, where he died A. D. 193, in the 90th year of his age.

Hippocrates was another phyſician of ſo great celebrity, that he is ſometimes ſtyled the Father of Phyſic, and the Prince of Phyſicians. He was born in Cos, one of the Cyclades; a cluſter of iſlands in the Archipelago. He died 361 years B. C. aged 99.

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the introduction of them into our country about 1623; whilſt others affirm they were firſt cultivated in Ireland, about Youghall, in the county of Cork, by Sir Walter Raleigh*, in 1610, and that they were not introduced into England till the year 1650.

There are two varieties in general uſe; one with a white, and the other with a red root. And beſides theſe there is a new kind, firſt brought from America, which that "patriot of every clime," the late Mr. Howard, cultivated in 1765 at Cardington, near Bedford. They were alſo propagated in ſome of the adjacent counties. Many of theſe potatoes weigh four or five pounds each; and hogs and cattle are found to prefer them to the common ſort. They are moreover deemed more nutritive than others; being more ſolid and ſweet, and containing more farina or flour. As an eſculent plant, they appear alſo worthy of cultivation; being, it is ſaid, when well boiled, equal, and, when roaſted, preferable to the common ſort.

Immenſe quantities of potatoes are raiſed in Lancaſhire for exportation. Mr. Pennant ſays, that 30 or 40,000 buſhels are annually exported to the Mediterranean ſea from the environs of Warrington; at the medium of 1*s.* 2*d.* per buſhel. A ſingle acre of land ſometimes produces 450 buſhels.

What are 179 buſhels of potatoes worth at 1*s.* 2*d.* per buſhel? *Anſ.* £10 8*s.* 10*d.*

No. 102. RAISINS. Raiſins are grapes prepared by drying them in the ſun, or in the air; to fit them for keeping, and for ſome medicinal purpoſes. Of theſe there are various kinds: as raiſins of Damaſcus, thus called from the capital city of Syria, in the neighbourhood of which they are cultivated. Travellers tell us of bunches weighing 25 pounds.

Raiſins of the ſun are a kind of raiſins brought from Spain, of a reddiſh or bluiſh colour, ſeeded, and very agreeable to eat. There are various other ſorts, denominated either from the place where they grow, or the kind of grape, &c. The fineſt and beſt raiſins are thoſe called in ſome places Damaſcus raiſins. Theſe are diſtinguiſhable from the others by their largeneſs and figure; they are flat, and wrinkled on the ſurface; ſoft and juicy within, near an inch long, and ſemipellucid, when held againſt a good light; they have a ſweet, agreeable, and vinous taſte.

The common raiſins are the fruit of ſeveral ſpecies of grapes, which are better or worſe, according as they have been more or leſs carefully cured. The raiſins of the ſun, or jar-raiſins, ſo called, becauſe they are imported in jars, are all dried by the heat of the ſun; and theſe are the ſorts uſed in medicine. All kinds of raiſins have much the ſame virtues; they are nutritive and balſamic, but they are ſubject to fermentation with juices of any kind, and hence when

* Sir Walter Raleigh, one of the greateſt ornaments of his country, was accuſed of being concerned in a conſpiracy, and after having been confined twelve years in the Tower, where he wrote ſeveral valuable performances, which are ſtill in high eſteem, was beheaded October 29, 1618, in the reign of James I.

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eaten immoderately, they often bring on colics. They are not at preſent much regarded in medicine, though they are uſed in ſome compoſitions, particularly in pectoral decoctions, and other medicines of that intention.

What are 189 pounds of raiſins worth at 10*d.* ¾. per pound? *Anſ.* £8 9*s.* 3*d.* ¾.

No. 103. RHUBARB. Rhubarb is a native plant of China and Siberia, but now propagated in many of our gardens, and may probably ſucceed ſo well here in time, as that a ſufficient quantity of this valuable drug may be raiſed, to ſupply our conſumption. Mr. Bell informs us, in his travels, that the beſt rhubarb grows in that part of Eaſtern Tartary which is ſituated between Aſiatic Ruſſia and China. Two ſorts of rhubarb roots are met with in the ſhops. The firſt is imported from Turkey and Ruſſia, in roundiſh pieces, freed from the bark, with a hole through the middle of each, externally of a yellow colour, internally variegated with lively reddiſh ſtreaks. The other, which is leſs eſteemed, comes immediately from the Eaſt-Indies, in longiſh pieces, harder, heavier, and more compact than the foregoing. The taſte of rhubarb is ſubacrid, bitteriſh, and ſomewhat ſtyptic; the ſmell is highly aromatic. Rhubarb is a mild cathartic, and commonly conſidered as one of the ſafeſt and moſt innocent ſubſtances of this claſs. It has alſo a mild aſtringent virtue, and is found to ſtrengthen the tone of the ſtomach, and is frequently given with a view to this corroborating virtue.

What are 195¾ ounces of rhubarb worth at 1*s.* 3*d.* ¾. per ounce? *Anſ.* £12 16*s.* 10*d.* ¾.

No. 104. SHAULS. Shaul is an article of female dreſs, much prized in the Eaſt, and now well known in England. As the ſhauls all come from Caſſemire, or Cachemir, it was generally concluded, that the materials from which they were fabricated were of the growth of that country. It was ſaid, that they were made of the hair of a particular goat, and the fine under-hair from a camel's breaſt; but it is now certainly known to be the produce of a Thibet ſheep. Bernier relates, that, in his time, ſhauls made for the great omrahs of the Thibetian wool, coſt a hundred and fifty rupees; whereas thoſe made of the wool of the country never coſt more than fifty.

Shauls have been lately made in our own country, particularly at Norwich.

What are 197 Norwich ſhauls worth at £1 18*s.* each? *Anſ.* £374 6*s.*

No. 105. SPECTACLES. Spectacles, an optic machine, conſiſting of two lenſes ſet in a frame, and applied on the noſe, to aſſiſt in defects of the organs of ſight. Our great dramatic bard, in his enumeration of the different ages of man, obſerves, that

> The ſixth age ſhifts
> Into the lean and ſlipper'd pantaloon,
> With ſpectacles on noſe, and pouch on ſide.

In

In Spain, and at Venice eſpecially, ſpectacles were formerly uſed with a different view: all the people of note and faſhion there had them continually on their noſes; a folly, that had its ſource in the natural pride of thoſe people, who valued themſelves upon a profound wiſdom; and affected to ſtare very near at every thing; as if their eyes were weakened, and worn out with exceſs of ſtudy and attention.

Spectacles were certainly unknown to the ancients. They are generally ſuppoſed to have been invented in the thirteenth century, by Alexander de Spina, a monk of Piſa, in Italy. Some, however, imagine, that the firſt hint of their conſtruction and uſe was derived from the writings of our own countryman, the famous Roger Bacon*, who was born in 1214, and died in 1292 or 1294.

What are 199 pairs of ſpectacles worth at 9*s.* 11*d.* per pair? *Anſ.* £98 13*s.* 5*d.*

RULE V. When the propoſed number of yards, pounds, &c. exceeds 199, multiply the value of one hundred by the figure ſtanding in the place of hundreds in the queſtion; and for the tens, units, and fractions, proceed as directed in the preceding ſections.

No. 106. SPONGE. Sponge, improperly written ſpunge, is a kind of marine ſubſtance, found adhering to rocks, ſhells, &c. under cover of the ſea-water, or on the ſides of rocks about the ſhore.

Naturaliſts have been much embarraſſed to determine, whether to range ſponge in the animal, mineral, or vegetable family. Some have imagined it to be a concretion of ſea-mud; others have commonly ſuppoſed it to be a vegetable production; but it is now allowed to be, like the Coralines, of animal origin; being the fabric and habitation of ſome ſpecies of worm or polype.

The greateſt part of our ſponges are brought from the Mediterranean, eſpecially from Nicaria, an iſland near the coaſt of Aſia, and weſt of Samos. Mr. Savary, in his letters on Greece, mentions Syme, an iſland north of Rhodes, as famous for ſponges. They grow in abundance round the iſland; and this fiſhery, he adds, is the only ſupport of its inhabitants. Men, women, and children, all know how to dive, and plunge into the water, in ſearch of the only patrimony beſtowed on them by nature; for the iſland, which is only a

* Olaus Borrichius, a Daniſh philoſopher, aſſerts, that Roger Bacon diſcovered all the kinds of glaſſes now in uſe, that he knew gunpowder, and had made many other important diſcoveries, which entitle him, as he obſerves, to immortal reputation. And Gerard John Voſſius ſays, that "in the year 1270 flouriſhed in every kind of learning among the Engliſh, Roger Bacon, a monk of the Franciſcan order, and an Oxford divine, a man of ſuch vaſt learning, that England, nay the whole world beſides, had not in this reſpect his equal, or his ſecond; yet either through the envy, or the ignorance, of the age in which he lived, he was ſtigmatized as a magician."

rock of ſmall extent, extremely ſtony, produces neither grain nor fruit.

The fine or ſmall ſponges, however, are the moſt eſteemed; and uſually come to us from Conſtantinople. Their goodneſs conſiſts in their being very white and light, and the holes ſmall and cloſe; the larger and coarſer come from the coaſts of Barbary, particularly about Tunis and Algiers. The ſponge is very uſeful in the arts. In phyſic it ſerves to foment parts enflamed. Taken inwardly, it chokes; and is for that reaſon, cut ſmall, and fried or dipped in honey, and given to quadrupeds to kill them, which it ſeldom fails to do, by ſwelling, and preventing the paſſage of the food into the inteſtines.

Sponge, burnt in a cloſe earthen veſſel, till it becomes black and friable, has been given in doſes of a ſcruple, againſt ſcrophulous complaints. A ſponge applied to bleeding-veſſels has been found a very ſucceſsful method of ſtopping the effuſion of blood. For this purpoſe a very dry and ſolid piece, of a cubical or conical form, ſhould be applied in cloſe contact with the veſſel, and retained by proper compreſſion; and it will ſoon adhere with great force. Very large arteries have been prevented from bleeding by this application.

What are 200 pieces of ſponge worth at 4*d*. $\frac{3}{4}$. each? *Anſ.* £3 19*s*. 2*d*.

No. 107. TAMARINDS. Tamarinds are the fruit of the tamarind-tree, which grows in the Eaſt and Weſt-Indies. The oriental ſort is drier and darker coloured than the occidental, and has more pulp; the former is ſometimes preſerved without addition, but the latter has always an admixture of ſugar. We uſe tamarinds only in medicine; but the Africans, and the people of many of the oriental nations, where they are common, make them into a ſort of confection with ſugar, which they eat as a delicacy, and which cools them in the violent heats of their climates. The pulp of tamarinds is an agreeable laxative acid, of common uſe in inflammatory and putrid diſorders, for abating thirſt and heat, and correcting putrefaction. This property is noticed by one of our beſt poets.

> Lay me reclin'd
> Beneath the ſpreading tamarind, that ſhakes,
> Fann'd by the breeze, its fever-cooling fruit.
>
> THOMSON.

What are 273$\frac{1}{4}$ pounds of tamarinds worth at 1*s*. 1*d*. $\frac{1}{2}$. per pound? *Anſ.* £15 7*s*. 4*d*. $\frac{3}{4}$.

No. 108. TARTAR. Tartar is an acid concrete ſalt which ariſes from wines, after complete fermentation; and ſticking to the top and ſides of the caſks, forms a cruſt, which hardens to the conſiſtence of a ſtone. The ſweet wines afford always leſs tartar than the ſharp ones, and it is alſo leſs valuable. The tartar of Rheniſh wine is better than that of any other; and, in general, thoſe wines which have the moſt acid in them, yield the greateſt quantity of tartar, and that in the largeſt cryſtals. Tartar is white, or red, according to the colour

colour of the wine from which it is produced. That brought from Germany is the beſt, as being taken out of thoſe enormous tuns, ſome of which hold a thouſand pipes of wine; ſo that the ſalt has time to come to its conſiſtence, which is one of the chief qualities to be regarded in tartar. That from Montpelier is next in order; then that of Lyons, and Paris.

The purification of tartar at Montpelier, whence our ſhops are generally ſupplied both with cryſtals and cream, conſiſts in boiling tartar in pure water, in filtrating this water, and in allowing the ſaline matter to depoſit by cold. The part which cryſtallizes by evaporation forms a ſaline cruſt, upon the ſurface of the liquor, called cream of tartar; and the part which cryſtallizes by cold forms ſmall irregular cryſtals, called cryſtals of tartar: but both are comprehended under the general name of cream of tartar, which is alſo uſed at large to ſignify purified tartar.

The medicinal characters of pure tartar are its acidity and laxative power. In doſes of half a dram, it is a mild, cooling aperient; and ſix or eight drams prove moderately cathartic. Cream of tartar is reputed a great ſweetener of the blood; for which ſome take it in whey or water-gruel in the ſpring time, to the quantity of half an ounce every morning, for three or four weeks. Emetic tartar is formed of the acid of tartar, combined with the metallic part of antimony, and is the beſt and moſt uſed of all the emetic preparations of antimony.

Tartar is moreover of conſiderable uſe among dyers, as it ſerves to diſpoſe the ſtuffs to take their colours the better.

What are 299½ ounces of cream of tartar worth at 2*d.* ½. per ounce? *Anſ.* £3 2*s.* 4*d.* ¾.

No. 109. NEWS-PAPERS. News-Papers are printed papers, which give an account of the tranſactions of the preſent times, either relative to our own country, or to foreign nations. The firſt printed news-paper, which appeared in the world, was publiſhed in England. In the Britiſh Muſeum, there are ſeveral news-papers, which were printed while the Spaniſh Armada was in the Engliſh channel, during the year 1588. In that year a news-paper was publiſhed, by Chriſtopher Barker, printer to Queen Elizabeth, entitled, "The Engliſh Mercurie." The news-papers were at firſt occaſional, and afterwards weekly. In 1622, Nicholas Butter publiſhed in London a weekly news-paper, in 4to. the title of which was, "The certain News of this preſent Week." Another weekly paper was publiſhed in London, in 4to. in 1626, and ſaid to be printed for Mercurius Britannicus. In a collection of pamphlets, which was accumulated by Mr. Charles Tooker, there were news-papers from 1621 to 1640. Before the execution of Charles I. there had been publiſhed more than an hundred news-papers with different titles; and, from that period to the reſtoration, there were upwards of eighty other news-papers. In the year 1792, there were printed in London twelve daily news-papers, nine evening papers, and nine weekly papers. In that year were alſo publiſhed in England ſixty-nine different country papers. The whole number

number of news-papers printed in England, in the year 1792, was 15,005,760.

Dr. Knox obſerves, that the value of news-papers in a free country "is truly great, as they form one of the beſt ſecurities of freedom." It may, however, be remarked, that news-papers become leſs beneficial to a nation, when corrupt miniſters of ſtate find means to employ the money of the people in deceiving them; when they, or their creatures, become proprietors of news-papers, and thereby poiſon the fountains of public intelligence. In that caſe, hireling writers are employed, who exert all the talents of which they may be poſſeſſed in propagating falſehoods among their countrymen, and in infuſing into their minds ſervile ſentiments, and fitting them for a deſpotic government. But, at all times ſince news-papers have become general, there have been ſome which have been conducted in an independent manner, and which have been eminently uſeful to the public. "Let it be impreſſed upon your minds, ſays Junius, let it be inſtilled into your children, that the LIBERTY OF THE PRESS is the palladium of all the civil, political, and religious rights of an Engliſhman." And it is obſerved by Mr. Hume, that "it is ſufficiently known, that deſpotic power would ſteal in upon us, were we not extremely watchful to prevent its progreſs; and were there not an eaſy method of conveying the alarum from one end of the kingdom to the other. The ſpirit of the people muſt frequently be rouſed to curb the ambition of the court; and the dread of rouſing this ſpirit muſt be employed to prevent that ambition. And nothing is ſo effectual to this purpoſe as the Liberty of the Preſs; by which all the learning, wit, and genius of the nation, may be employed on the ſide of liberty, and every one animated to its defence. We may conclude, that the liberty of Britain is gone for ever, whenever any attempts to wreſt away the Liberty of the Preſs ſhall ſucceed."

Suppoſe a perſon ſhould purchaſe a MORNING CHRONICLE daily, ſundays excepted, for the ſpace of a year, how much would he expend in that time at 4*d*. ½. each paper? *Anſ.* £5 17*s*. 4*d*. ½.

No. 110. WAFERS. Wafers for ſealing letters are made by mixing fine flour with the whites of eggs, iſinglaſs, and a little yeaſt, and beating the maſs into a paſte; then ſpreading it, when thinned with gum-water, on even tin-plates, and drying it in a ſtove, and cutting it for uſe. The different colours may be given by tinging the paſte with brazil or vermilion for red; indigo, &c. for blue; ſaffron, turmeric, or gamboge, &c. for yellow, &c.

What are 349 boxes of wafers worth at 8*d*. ¼. each? *Anſ.* £12 14*s*. 5*d*. ¼.

No. 111. SEALING-WAX. Sealing, or Spaniſh wax, is a compoſition of gum lacca, melted and prepared with reſins, and coloured with ſome ſuitable pigment.

The beſt hard red ſealing-wax is made by mixing two parts of ſhellac, well powdered, and reſin and vermilion, powdered, of each one part, and melting this combined powder over a gentle fire; and, when

when the ingredients ſeem thoroughly incorporated, working the wax into ſticks.

What are 387 ſticks of ſealing-wax worth at 5*d.* ¾. per ſtick? *Anſ.* £9 5*s.* 5*d.* ¼.

No. 112. YAMS. Yam is a kind of root, which is much cultivated by the inhabitants of the iſlands in America, and is of great uſe to them for feeding their negroes; and the white people make puddings of them, when ground to a ſort of flour. Theſe roots are as big as a man's leg, of an irregular form, and of a dirty brown colour on the outſide, but white and mealy within. They are roaſted or boiled for food, and ſometimes made into bread. Theſe plants grow wild in the woods in the iſland of Ceylon, and on the coaſt of Malabar; and they are ſuppoſed to have been brought from the Eaſt to the Weſt-Indies.

What are 486 yams worth at 4*d.* ¾. each? *Anſ.* £9 12*s.* 4*d.* ½.

No. 113. WATCHES. Watches were invented in the laſt century, and the glory of this excellent diſcovery lies between Dr. Hooke and M. Huygens, but to which of them it properly belongs has been much diſputed; the Engliſh aſcribing it to the former; and the Dutch, French, &c. to the latter. Dr. Derham, however, in his Artificial Clock-Maker, ſays expreſsly, that Dr. Hooke was the inventor; and he appears certainly to have been the inventor of what is called the pendulum watch. The time of this invention was about the year 1658, as appears, among other evidences, from an inſcription on one of the double balance watches, preſented to king Charles II. viz. Rob. Hooke inven. 1658. T. Tompion fecit, 1675. The invention preſently got into reputation, both at home and abroad; and two of them were ſent for by the dauphin of France. As it was in England that watches ſeem to have had their firſt riſe, ſo they have there arrived at their greateſt perfection. Witneſs the high value put on an Engliſh watch in all foreign countries, and the vaſt demand made for them.

What are 549 common ſilver watches worth at £4 18*s.* 6*d.* per watch? *Anſ.* £2703 16*s.* 6*d.*

No. 114. CARDS. Playing cards are little pieces of fine thin paſteboard, whereon are printed different points and figures; a certain number of which ſerve for the performance of many games. A full pack conſiſts of 52 cards.

It is generally ſuppoſed, that cards were invented in France about the year 1300, to amuſe Charles VI. during the intervals of a melancholy diſorder which at length brought him to the grave. But the honourable Daines Barrington, in his "Obſervations on the Antiquity of Card-Playing in England," contends for their being of Spaniſh origin*, while others refer them to the Romans†. It is, in-

* Archæologia, vol. viii. † See Engliſh Rev. Jan. 1790. p. 24.

deed, of little importance to whom we are indebted for theſe peſtilential time-waſters, which not only weary the mind without improving it, but ſtrengthen the paſſions of envy and avarice, and often lead to fraud and to profuſion, to corruption and to ruin; which deaden the feelings of humanity, abſorb every idea of juſtice, and too frequently annihilate every virtuous principle. The odious faſhion of card-playing, ſays Dr. Johnſon, was produced by a conſpiracy of the old, the ugly, and the ignorant, againſt the young and beautiful, the witty and the gay; as a contrivance to level all diſtinctions of nature and of art; to confound the world in a chaos of folly; to take from thoſe who could outſhine them all the advantages of mind and body, to with-hold youth from its natural pleaſures, to deprive wit of its influence, and beauty of its charms; to ſink life into a tedious uniformity, and to allow it no other hopes or fears but thoſe of robbing and being robbed.

Rambler, No. 15.

See where around the ſilent vot'ries ſit,
To radiant beauty blind, and deaf to wit;
Each vacant eye appears with wiſdom fraught,
Each ſolemn blockhead looks as if he thought.
Here coward inſolence inſults the bold,
And ſelfiſh av'rice boaſts his luſt of gold;
Ill-temper vents her ſpleen without offence,
And pompous dulneſs triumphs over ſenſe.

PYE.

Now, in oppoſition to the foregoing ſtrictures, let us place card-playing in the moſt favourable point of view; let us ſuppoſe, what, however, we fear is ſeldom the caſe, that it may be undertaken to recreate the body or to relax the mind; that it may be untainted with avarice, and unpolluted by paſſion; that, in ſhort, it may be what is ſtyled an innocent amuſement; yet even in this inſtance, we cannot but again adopt the language of Dr. Johnſon, that it is unworthy of a reaſonable being to ſpend any of the little time allotted us, without ſome tendency, either direct or oblique, to the end of our exiſtence. And though every moment cannot be laid out on the formal and regular improvement of our knowledge, or in the ſtated practice of a moral or religious duty, yet none ſhould be ſo ſpent as to exclude wiſdom or virtue, or paſs without a poſſibility of qualifying us more or leſs for the better employment of thoſe which are to come. It is ſcarcely poſſible to paſs an hour in honeſt CONVERSATION*, without being able, when we riſe from it, to pleaſe ourſelves with having given or received ſome advantages; but a man may *ſhuffle cards from noon to midnight*, without tracing any new idea in his mind, or being

* Cards were ſuperfl'ous *here*, with all the tricks
That idleneſs has ever yet contriv'd
To fill the void of an unfurniſh'd brain,
To palliate dulneſs, and give time a ſhove.

COWPER.

able

able to recollect the day by any other token than his gain or loſs, and a confuſed remembrance of agitated paſſions, and clamorous altercations.

Rambler, No. 80.

It is ſaid by a late writer, "I cannot but regard it, both as the intereſt and the duty of perſons of taſte, and ſentiment, and knowledge, to take every opportunity of diſcountenancing a ſpecies of faſhionable amuſement, that of card-playing, which is only adapted for the propagation and perpetuation of ignorance, which occaſions a ſhameful waſte of that time which might be much more beneficially, as well as agreeably employed, which is equally uſeleſs to the body and to the mind, and which is beſt calculated to pleaſe thoſe perſons of both ſexes, who are the moſt devoid of genius, and the moſt inſignificant and frivolous."

Hiſtory of Philip Waldegrave, vol. i. *p.* 32, 33.

What are 684 packs of cards worth at 3*s.* 3*d.* per pack? *Anſ.* £111 3*s.*

No. 115. CHERRIES. This well known fruit formerly grew ſpontaneouſly in the woods near Ceraſus, a city of Pontus, on the ſouthern coaſt of the Black Sea. From this city it was brought to Rome by Lucullus, after the Mithridatic victory, in the year of the city 680, and conveyed into Britain about 120 years afterwards, or A. D. 55. Hence, according to Servius, the cherry-tree is called *Ceraſus*; hence alſo the Latins denominated its fruit *Ceraſa*; and the French *Ceriſe*.

Miller enumerates only five ſpecies of cherries; and from theſe, modern botaniſts aſſure us, the great varieties cultivated in the Engliſh gardens are derived.

Mr. Coxe, in his travels, relates an inſtance of great elegance in a deſert which he partook of at Moſcow. On the upper and lower ends of the table were placed two ſuperb China vaſes containing cherry-trees in full leaf, and fruit hanging on the boughs, which was gathered by the company.

Dr. Oliver mentions having been ſhewn a cherry-ſtone in Holland with 124 heads upon it, and all ſo perfect, that the naked eye might diſtinguiſh thoſe of kings, popes, &c. by their crowns, mitres, &c. This curioſity was purchaſed in Pruſſia, for the ſum of £300, and is ſaid to have been the workmanſhip of a poor wretch whilſt in "durance vile" at Dantzick.

The miſchiefs ariſing from the cuſtom which many people have of ſwallowing the ſtones of plumbs and other fruit are very great. Cherry-ſtones, ſwallowed in great quantities, have occaſioned the death of ſeveral perſons.

See the Cyclop. and the Ency. Brit. Art. Fruit-Stones.

What are 743 pounds of cherries worth at 3*d.* $\frac{3}{4}$. per pound? *Anſ.* £11 12*s.* 2*d.* $\frac{1}{4}$.

No. 116.

No. 116. GINGER. Ginger is a warm aromatic root, a native of the Eaſt and Weſt-Indies, where it is found growing naturally without culture. It is, however, cultivated for ſale in moſt of the iſlands in America, and furniſhes a conſiderable export. The beſt is of a browniſh colour, and of a hot, pungent taſte, and agreeable ſmell. This root, when green, is frequently candied with ſugar and honey. They alſo make a marmalade of it, and dry cakes. The northern people make great uſe of this confection, as holding it ſovereign againſt the ſcurvy. The Indians eat the root, when green, by way of ſalad, firſt chopping it ſmall, mixing it with other herbs, and ſeaſoning it with oil and vinegar. Ginger is an ingredient in many medicinal compoſitions, and powders; being hot and penetrating; good to ſtrengthen the ſtomach, promote appetite, and help digeſtion.

What are 888 ounces of ginger worth at 2*d.* $\frac{1}{2}$. per ounce? *Anſ.* £9 5*s.*

No. 117. CASTOR OIL. Caſtor oil is the product of a ſhrub, called by ſome *Palma Chriſti*, which grows in the Weſt-Indies. It is variouſly prepared; the preferable method is by expreſſion, as oils of all kinds have their acrimony heightened by the action of fire. It ſeems particularly adapted for the common complaints of infant children, and the cure of bilious diſorders; and is certainly by all accounts a very valuable medicine. It is ſtrongly recommended alſo in all calculous and nephritic diſorders. The doſe for adults is from two to three or four ſpoonfuls, in two ſpoonfuls of peppermint-water. It may be given to children mixed with honey; and it acts ſo mildly, that new-born infants may take it in about a tea-ſpoonful for a doſe.

What are 947 ounces of caſtor oil worth at 8*d.* $\frac{1}{4}$. per ounce? *Anſ.* £32 11*s.* 0*d.* $\frac{3}{4}$.

No. 118. BARK. Cortex Peruvianus, popularly called Jeſuit's bark, is the bark of a tree growing chiefly in Peru, denominated by the Spaniards Fever-Wood; by reaſon of its extraordinary virtue in removing all kinds of intermitting fevers and agues. The Indians commonly call it the *ſuddling-tree*, from the property it has of intoxicating fiſhes, when either its wood or bark is beaten, and ſteeped in the water where they are. The uſe of this febrifuge ſeems to have been very long known to the natives of Peru, probably as early as the year 1500, and their manner of taking it was by pounding the bark, infuſing it in water, and drinking the infuſion. Their hatred to the Spaniards, their conquerors, induced them to keep it a long time a ſecret from them; and when it became known among the inhabitants of Loxa, it ſtill remained a ſecret to the reſt of the world, and its great value was never generally known till the year 1633; when the lady of the viceroy of Peru, the counteſs de Cinchon, being long ill of an intermittent fever, which would give way to none of the known remedies, the corregidor of Loxa ſent to the viceroy a quantity of this bark, which he aſſured him would cure the lady, though all other means had failed. Upon this the corregidor was ſent for to Lima, and after having given the medicine to many other per-

ſons with ſafety and ſucceſs, the lady at length took it, and was cured. She immediately on this ſent for a large quantity of the bark, had it powdered, and herſelf diſperſed it to thoſe who had occaſion for it; whence it obtained the name of the *counteſs's powder*, and it was alſo called *cinchona*. But this lady being ſoon tired of the office, gave it in charge to the Jeſuits; and they continuing to give it to the ſick with the ſame ſucceſs, it then was denominated the *Jeſuit's powder*. Theſe fathers ſoon found means to ſend a quantity of it to Cardinal Lugo, who diſperſed it with the ſame ſucceſs at Rome; and after him the apothecary to the College of Cardinals gave it gratis to the poor with the ſame good effects, and under the name of the Jeſuits, or the Cardinal's powder. Afterwards the better ſort were made to pay its weight in ſilver for it, to defray the expences of importation, while the poor ſtill had it gratis. Lewis XIV. at that time dauphin of France, was cured by it of a fever, which had not given way to other medicines.

In the year 1640, the count and counteſs de Cinchon being returned to Spain, their phyſician, Juan de Vega, who brought a great quantity of it over with him, ſold it at a conſiderable price; and ſoon after this, large quantites were ſent over by the galleons; but the great demands from Europe cauſing the inhabitants of Loxa to adulterate it with other barks, it had like to have loſt part of the credit to which it had an unqueſtionable claim. When firſt introduced, it is ſaid to have been ſold for about 8*s*. ſterl. a doſe; which great price, with the little effects found from it, by reaſon of their ignorance of the manner of preparing and preſcribing it, occaſioned its being diſuſed, till about the year 1679, when Mr. Talbor, an Engliſh practitioner in phyſic, brought it into vogue again, by the great number of cures wrought about the court and city of Paris with this powder, prepared after his manner: the ſecret of which was ſoon after made public by the munificence of Lewis XIV. who rewarded Talbor for the communication with 5000 crowns.

Peruvian bark has been found very effectual in preventing colds. The method in which it has been uſed for this purpoſe was, after due preparation, by bleeding or purging, to take two ounces of it every ſpring and fall. By this means an habitual taking of cold, and a conſequent ſore throat, has been cured.

What are 999 ounces of bark worth at 8*d*. $\frac{1}{2}$. per ounce? *Anſ.* £35 7*s*. 7*d*. $\frac{1}{2}$.

RULE VI. To find the value of one or more thouſands, ſeek the amount of a hundred, which multiply by ten; the reſult of that product multiply by the number of thouſands in the queſtion, if more than one, and proceed for the hundreds, tens, units, and fractions, as directed in the preceding rules.

No. 119. COFFEE. The coffee-tree is cultivated in Arabia, Perſia, the Eaſt-Indies, and ſeveral parts of America. It is alſo raiſed

raiſed in botanic gardens in ſeveral parts of Europe. Prince Eugene's garden at Vienna produced more coffee than was ſufficient for his own conſumption. This tree, being an evergreen, makes a fine appearance at all ſeaſons of the year, but eſpecially when in flower, and when the berries are red, which is generally in the winter, ſo that they continue a long time in that ſtate.

The coffee produced in Arabia is found ſo greatly to excel that raiſed in the Weſt-Indies and elſewhere, that the cultivation of the tree is not much practiſed in the Britiſh colonies. Coffee-berries are very apt to imbibe moiſture, or the flavour of any thing placed near them. They have been rendered very diſagreeable, or utterly ſpoiled, by being placed in a cloſet near rum, ſpirits of wine, or pepper.

The beverage prepared from thoſe berries has been familiar in Europe for more than a century, and among the Turks for 170, ſome ſay 250 years. Its original is not well known. Some aſcribe it to the prior of a monaſtery, who being informed by a goat-herd, that his cattle ſometimes browzing on the tree would wake and caper all night, became curious to prove its virtues. Accordingly, he firſt tried it on his monks, to prevent their ſleeping at matins. Others refer the invention of coffee to the Perſians. It ſeems, however, to have been firſt brought into vogue at Aden, a city near the mouth of the Red Sea. Hence it paſſed to Mecca. From Arabia Felix it was conveyed to Grand Cairo. From Egypt it paſſed to Syria and Conſtantinople. Thevenot, the traveller, was the firſt who brought it into France; and a Greek ſervant, called Paſqua, brought into England by Mr. Edwards, a Turkey merchant, in 1652, to make his coffee, firſt ſet up the trade of a coffee-man, and introduced drinking it into this iſland.

From ſeveral experiments and obſervations made by Dr. Percival, to aſcertain the effects of coffee on the human body, he infers, that it is ſlightly aſtringent, and antiſeptic; that it moderates alimentary fermentation, and is powerfully ſedative. It aſſiſts digeſtion, relieves the head-ach, and has been preſcribed with great ſucceſs in the aſthma. In delicate habits the too liberal uſe of coffee has, however, been ſuſpected of producing palſies.

What are 1000 pounds of coffee worth at 4*s.* 6*d.* per pound? *Anſ.* £225.

No. 120. CACAO. The cacao, or chocolate-nut-tree, is a native of America; and is found in great plenty in the northern provinces of South America, where it grows ſpontaneouſly; but it is cultivated in many of the Weſt-India iſlands. It reſembles a cherry-tree. The fruit is encloſed in a kind of pod, of the ſize and figure of a cucumber. Of this fruit, which conſiſts of ſeeds, uſually about 30 in number, with the addition of vanilla, and ſome other ingredients, the Spaniards, and, after their example, the reſt of Europe, prepare a kind of conſerve, or cake; which, diluted in hot water, makes that delicious, wholeſome drink, called CHOCOLATE.

It is likewiſe made into a ſweetmeat; and there is an oil extracted from it, which is an extraordinary remedy for the cure of burns and ſcalds.

ſcalds. The cacao-nuts are eſteemed by the Mexicans as anodyne; and uſed, eaten raw, to aſſuage pains of the bowels. It has been moreover remarked, that the cacao-nut-tree ſupplies the Indians with almoſt whatever they ſtand in need of. The bark of the nut is made into cordage, ſails, and cloths; and the ſhell into drinking bowls, cups, &c. the kernel affords a wholeſome food; and the milk contained in the ſhell a cooling liquor; the leaves are uſed for thatching houſes, and wrought into baſkets; and the body of the tree is converted into maſts for ſhips, and employed for various other purpoſes. Indeed, it is aſſerted in Lobo's voyage, and by other authors*, that a ſhip may be built, fitted out with maſts, ſails, and cordage, and victualled with bread, water, wine, ſugar, vinegar, and oil, from the cacao-tree.

It is, probably, to this tree that Thomſon alludes in the ſubſequent lines.

> Wide o'er his iſles the branching Oronoque †
> Rolls a brown deluge, and the native drives
> To dwell aloft on life-ſufficing trees,
> At once his dome, his robe, his food, and arms.

What are 2876 cacao nuts worth at 1*s*. 6*d*. $\frac{3}{4}$. each? *Anſ.* £224 13*s*. 9*d*.

BILLS OF PARCELS.

No. 121. *A MERCER's BILL.*

Mrs. JONES,

Bought of WILLIAM BROOK, March 4, 1795.

		s.	*d*.		£	*s*.	*d*.
9	Yards of ſilk..... at	13	6	.... per yard			
14$\frac{1}{2}$	Yards of flowered do. at	15	11	.... per yard			
23	Yards of ſarſenet....at	6	4	.... per yard			
30$\frac{1}{2}$	Yards of brocade.... at	9	11$\frac{1}{2}$	.... per yard			
15$\frac{1}{4}$	Yards of Genoa velvet at	19	10	.... per yard			
18	Yards of luſtring....at	5	8	.... per yard			
					£60	6	1$\frac{1}{4}$

* See Ray's Wiſdom of God in the Creation, p. 207.
† A noble river of Terra Firma in South America.

No. 122.

No. 122. *A LINEN-DRAPER's BILL.*

Mr. SALMON,

Bought of JOHN WILLIAMS, Jan. 4, 1795.

		s.	*d.*		*£*	*s.*	*d.*
34	Ells of dowlas ..... at	1	10	.... per ell			
28¼	Ells of holland..... at	5	6	.... per ell			
13½	Ells of diaper..... at	1	4½	.... per ell			
5⅜	Damaſk napkins.... at	2	3	.... each			
5½	Yards of cambric....at	13	7	.... per yard ...			
74¾	Yards of muſlin ... at	8	11	.... per yard ...			
					£55	8	0

No. 123. *A MILLINER's BILL.*

Mrs. PHILLIPS,

Bought of KATE WATSON, June 4, 1795.

		s.	*d.*		*£*	*s.*	*d.*
18½	Yards of fine lace....at	15	7	.... per yard			
12	Pair of kid gloves...at	2	2	.... per pair			
18	French mounted fans at	3	9	.... each			
4	Fine lace tippets....at	7	10	.... each			
4	Doz. linen gloves...at	1	4	.... per pair			
8	Sets of knots ..... at	2	6	.... per ſet			
					£24	17	1½

DIVISION

IS a ſhort way of performing many ſubtractions, and conſiſts of three terms called the DIVIDEND, DIVISOR, and QUOTIENT.

The firſt is the number given to be divided; the ſecond, that by which the work is performed; and the third, the reſult of the operation.

EXAMPLES.

No. 124. VELOCITY OF LIGHT.

Let there be light, ſaid GOD, and forthwith light
Ethereal, firſt of things, quinteſſence pure
Sprung from the deep.

Hail

Hail holy light, offspring of heav'n firſt-born,
Whoſe fountain who ſhall tell*? Before the ſun,
Before the heav'ns thou wert; and at the voice
Of GOD, as with a mantle didſt inveſt
The riſing world of waters dark and deep,
Won from the void and formleſs infinite†.

MILTON.

The ſacred writings inform us, that the Divine Architect of the univerſe, after he had created the light formed the SUN, which, according to philoſophers and aſtronomers, then became "the great palace of light; the regent of day; the delegated ſource of light and life; the beſt image here below of his Creator."

Mathematicians have demonſtrated, that light moves with ſuch amazing rapidity, as to paſs from the ſun to our planet in about the ſpace of eight minutes‡. Now admitting the diſtance, as uſually computed, to be 95,000,000 of Engliſh miles, at what rate per minute does it travel? *Anſ.* 11,875,000 miles.

If the following obſervation of a learned foreigner be juſt, it cannot but be allowed to be a moſt mortifying concluſion of the ſubject now under conſideration.

"There is no country in Europe, ſays Dr. Wendeborn, more heavily burdened with taxes than England. The very light which falls through the windows, and which in London, during the winter, is mixed with no ſmall portion of darkneſs, *muſt be paid for!*" Thus are we not only ſubject to a wide range of taxation, which embraces every form of tangible property, but this 'efflux divine,' etherial as it is, has not been able to elude the rapacious gripe of Engliſh financiers.

No. 125. A MANUFACTURER. A manufacture is ſomething made by the hand of man. It is derived from two Latin words, *manus*, the hand, and *facere*, to make. Manufactures are therefore oppoſed to *productions*, which latter are what the bounty of nature ſpontaneouſly affords us; as fruits, corn, marble, &c.

"If we try the different characters of men, ſays an able writer, by the teſt of utility, and found this teſt on the actual ſtate of our nation, the *knight of chivalry* and his various offſpring, compared to the modern manufacturer, ſeem weak and uſeleſs things. Even the country-gentleman, the moſt reſpectable character of all thoſe *lilies of the valley who neither toil nor ſpin*, ſinks in this compariſon. The proprietor of landed property, who lives on the income of his eſtates, can in general be conſidered only as the conduit that conveys the wealth of one generation to another. He is a neceſſary link in ſociety indeed, but his place can at all times be eaſily ſupplied: in this point of view, the *poor peaſant* who cultivates his eſtate is of more importance than he. How then ſhall we eſtimate him when compared with a reſpectable manufacturer?—with the original genius, for inſtance, who has found

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* See Job xxxviii. 19. † See Gen. i. 2, 3.

‡ See the Cyclop. art. *Light*, or the Ency. Brit. art. *Aſtronomy*, *vol.* ii. *p.* 577.

means to convert our clay into porcelain, and lays all Europe under contribution to England by his genius, taſte, and ſkill?"

The reſpectable manufacturer here alluded to, is undoubtedly the late Mr. Wedgwood, who extended and applied pottery to a variety of curious compoſitions, ſubſervient not only to the ordinary purpoſes of life, but to ornament the arts, antiquity, hiſtory, &c. and thereby rendered it a very important object of commerce, both foreign and domeſtic. This valuable manufacture is carried on in Staffordſhire.

If 9 table ſets of Mr. Wedgwood's porcelain coſt £351; how much is that per ſet? *Anſ.* £39.

No. 126. TRADESMAN. A tradeſman is a ſhopkeeper. A merchant is called a *trader*, but not a tradeſman; and it ſeems diſtinguiſhed in Shakeſpeare from a man that labours with his hands.

"I live by the awl, I meddle with no tradeſman's matters."

Suppoſe a tradeſman ſaves £1490 in 10 years; how much is that per annum? *Anſ.* £149.

No. 127. A MECHANIC. This word ſometimes ſignifies a man ſkilled in mechanics; a mathematical ſcience which demonſtrates the laws of motion. But it generally denotes a low workman; a perſon of mean occupation; in which ſenſe Shakeſpeare uſes it; and no author has, we think, treated theſe valuable members of the community with more ariſtocratic inſolence than that inimitable bard. "Mechanic ſlaves; mechanical, ſalt-butter-rogues; worſted-ſtocking-knaves; rank-ſcented many, apron-men, garlick-eaters," are a few of the many contemptuous epithets which are applied to them in his dramatic pieces. Hence it may be inferred, that it was the *ton* in his time, as it has been ſince, to conſider the lower claſſes of God's creatures as "things baſe and vile, holding no quantity." Let, however, the proudeſt natural philoſopher, or the profoundeſt mathematician, conſider, that although he may be juſtly delighted with the extent of his own views, yet, without mechanical performances, all his refined ſpeculations would prove but an empty dream. And, indeed, in juſtice to Shakeſpeare, he may be conſidered in theſe paſſages not as expreſſing his own ſentiments, but as exhibiting the inſolent language often employed by the wealthy, and by thoſe who are ſometimes ſtyled the great, when ſpeaking of the lower orders of ſociety.

Suppoſe an excellent mechanic earns £17 6*s.* 6*d.* in 11 weeks; how much is that per week? *Anſ.* £1 11*s.* 6*d.*

No. 128. PEASANT. A peaſant is one whoſe buſineſs is rural labour. Peaſantry denotes country people.

> Ill fares the land, to haſt'ning ill a prey,
> Where wealth accumulates, and men decay;
> Princes and lords may flouriſh, or may fade;
> A breath can make them, as a breath has made:
> But a bold PEASANTRY, their country's pride,
> When once deſtroy'd, can never be ſupply'd.
>
> GOLDSMITH.

It

It has been juſtly remarked, that farmers, manufacturers, mechanics, and labourers, are the ſtrength and boaſt of an empire.

Without labour man could not exiſt: and where lies the great burden and weight of induſtry but upon theſe? It is by prodigious labour that the earth is forced to produce the neceſſaries of life; it is by an equally painful application, that all kinds of manufactures are produced; the conveniencies, the luxuries of life, all come from them.

> Hence corn, and wine, and oil, and all in life
> Delectable. What ſimple nature yields
> (And nature does her part) are only rude
> Materials, cumbers on the thorny ground;
> 'Tis toil that makes them wealth.
>
> DYER.

It is, therefore, the labour of the artiſan and the peaſant that ſupports monarchy; it is their labour that ſupports ariſtocracy; it is their labour that ſupports the prieſthood; and it is their labour that ſupports themſelves. Have then, it has been aſked, ſuch men no RIGHTS in a ſtate; are they to be ſtigmatized by ariſtocratic pride and inſolence as the "*ſwiniſh multitude*," and to be treated with contempt?

Suppoſe a peaſant earns £5 14*s.* in 12 weeks, how much is that per week? *Anſ.* 9*s.* 6*d.*

No. 129. LONGITUDE. Longitude is the diſtance of a place from ſome firſt meridian, eaſt or weſt, meaſured in degrees and minutes (60 of which make a degree) on the equator, half the circumference of the globe, or 180 degrees. Longitude may alſo be reckoned by time: for the circumference of the earth being 360 degrees, and its diurnal revolution performed in 24 hours, it follows, that 1 hour of time is equal to 15 degrees of longitude; and ſo in proportion for any greater or leſs quantity: conſequently, a place which has the ſun 1, 2, or 3 hours before or after another place, muſt be ſituated 15, 30, or 45 degrees eaſt or weſt of the meridian of ſuch a place. Hence, dividing the longitude of any place by 15, will give the number of hours which that place has the ſun before or after perſons who live under the firſt meridian.

When the place in the ſubſequent queſtions lies in eaſtern longitude, the quotient of the operation now recommended will give the hour required, which will either be in the afternoon, evening, or night; but when it is ſituated in weſtern longitude, the time in the quotient muſt be ſubtracted from 12, and the remainder will be the hour ſought, viz. ſome portion of the morning. A ſimilar procedure will afford an anſwer to all queſtions of this nature, whatever hour may be propoſed.

PETERSBURGH, the capital of the Ruſſian empire, built by Peter the Great; and CONSTANTINOPLE, the chief city of the Ottoman empire, rebuilt by Conſtantine the Great, are ſituated in *about* thirty degrees of eaſtern longitude from the meridian of LONDON: What is the hour at thoſe places when it is *noon* with us? *Anſ.* 2 o'clock in the afternoon.

No. 130.

No. 130. BOTANY-BAY. This place is ſituated in New-Holland, the largeſt iſland in the world, and was fixed upon to receive convicts when the ceſſation of transferring them to America took place. The ſquadron which conveyed Governor Philips thither ſailed in May 1787; and, after touching at Santa Cruz, in the iſle of Teneriffe, Rio de Janerio, on the coaſt of Brazil, South America, and the Cape of Good Hope, arrived in ſight of the coaſt of Botany-Bay the beginning of January 1788. The water in this bay being found ſhallow, and the anchorage bad, Port Jackſon, a bay three leagues north of it was examined, which being found uncommonly good, a cove denominated from Lord Sydney, *Sydney-Cove*, was fixed on for ſuiting the purpoſe of debarkation. Thus ſeated at the head of this cove, Governor Philips on the 7th of February 1788, aſſumed, in a ſolemn manner, the powers of government delegated to him, by publiſhing the royal commiſſion, which conſtituted him captain-general and governor of New South Wales, and the iſlands adjacent in the pacific ocean.

Botany-Bay is ſituated in about 34 degrees of ſouth latitude, and 150 degrees of eaſt longitude from London; what is the hour at that place when it is noon with us? *Anſ.* 10 o'clock at night.

No. 131. AMBOYNA. This is one of the Moluccas, or clove iſlands in the Eaſt-Indies. Here the Engliſh and Dutch had formerly their reſpective factories and ſettlements, and had by treaty agreed to divide the traffic between them; but the latter, under pretence that the Engliſh were concerned in a plot, ſeized all their factors and merchants, with their merchandize, writings, and books. Theſe acts of violence were followed by a ſcene of horror ſcarcely to be equalled by the puniſhment of the moſt atrocious offenders. Their ſavage tormentors tortured theſe miſerable victims by every cruel method they could invent, in order to make them confeſs this imaginary treachery: and thoſe who did not expire under the agonies of torture, were conſigned to the hands of the executioner.

This event took place in 1622, in the reign of James I. and neither he nor his ſucceſſor Charles I. had the ſpirit to procure any ſatisfaction for this infamous infraction of the law of nations, and ſhameful violation of every principle of humanity. But Cromwell, when peace was ſigned with the Dutch in 1654, compelled them to pay £300,000, on this account.

See Rapin, vol. xi. *p.* 76.

It may, however, juſtly be reckoned ſingular in the fortune of this commercial republic, that they are ſtill permitted to enjoy this invaluable iſland in peace, ſince it was obtained by means that will ſtain the Dutch annals, to the lateſt ages, with indelible infamy.

Amboyna is ſituated in 4 degrees of ſouth latitude; and 127 degrees of eaſt longitude; what is the hour there, when it is noon with us? *Anſ.* 8 hours 28 minutes, in the evening.

No. 132.

No. 132. CALCUTTA. This large and populous city, the capital of Bengal, and of all the Britiſh poſſeſſions in the Eaſt-Indies, is ſituated on a branch of the Ganges, about 100 miles from the ſea. It was taken by the Nabob Surajah Dowla, in 1756, when the Engliſh priſoners, in number 146, were driven in the evening, into a place called the Black-Hole priſon, a cube of about 18 feet, where, through the want of room, the excluſion of freſh air, and the heat of the climate, 123 of theſe hapleſs victims expired in extreme agonies the ſame night: an affecting ſcene, which is pathetically deſcribed in Smollett's Hiſtory of England.

Calcutta being retaken by Admiral Watſon and Colonel Clive, early in 1757, the Nabob was afterwards defeated, depoſed, and put to death.

The eaſtern longitude of Calcutta is about 88½; what o'clock is it with the inhabitants when it is mid-day with us? *Anſ.* 54 minutes paſt 5 in the afternoon.

No. 133. BALDIVIA. Baldivia or Valdivia, a ſea port town of Chili, South America, was built in 1551, by the Spaniſh general Baldivia. This brutal officer tyrannizing over the Chileſians occaſioned a general revolt, and CAPAULICAN, a renowned hero, was choſen their leader. By his ſkill and intrepidity, the Spaniſh army which oppoſed them was ſurrounded and cut to pieces; and Baldivia himſelf, being captured, was put to death by having melted gold poured down his throat. The Indians afterwards made flutes and other inſtruments of his bones, and preſerved his ſkull as a monument of their victory, which they celebrated by an annual feſtivity.

Baldivia is ſituated in about 40 degrees of ſouth latitude, and 81 degrees of weſt longitude; what is their hour when it is mid-day with us? *Anſ.* 36 minutes paſt 6 o'clock in the morning.

No. 134. JUAN FERNANDEZ. This is a ſmall iſland weſt of Chili, South America. It has plenty of excellent water, and abounds in a variety of eſculent vegetables, highly antiſcorbutic. Here Commodore Anſon's languiſhing and diſtreſſed crew, after having been buffeted with tempeſts, and debilitated by an inveterate ſcurvy, were reſtored to perfect health in 1741. But what has chiefly contributed to render this ſpot remarkable, is its having been the ſolitary reſidence of one Alexander Selkirk, a Scotchman, who was left here about the year 1705, and continued alone upwards of four years, when he was taken on board an Engliſh ſhip, and brought back to Europe. When he was firſt diſcovered he had forgotten his native language, and could ſcarcely be underſtood, ſeeming to ſpeak his words by halves. He was dreſſed in goats ſkins, would drink nothing but water, and it was ſome time before he could reliſh the ſhip's victuals. During his abode in this iſland, he had killed 500 goats, which he caught by running them down; and he marked as many more on the ear, which he let go. Some of theſe were caught by Anſon's people; their venerable aſpect and majeſtic beards diſcovered ſtrong ſymptoms of antiquity.

It

It has been pretended, that Selkirk, after his return to England, was adviſed to publiſh an account of his adventures; and that he put his papers into the hands of Daniel De Foe, to prepare them for publication; and that the latter ſurreptitiouſly appropriated theſe papers to his own uſe, and that this was the origin of Robinſon Cruſoe. But this charge againſt De Foe, though it has been repeatedly publiſhed, appears to have been totally groundleſs; and though he had many enemies, and was often attacked in print, the charge was never brought againſt him in his own life-time. De Foe probably, indeed, derived ſome general hints for his own work from the ſtory of Selkirk; but this he, or any other man, had a right to do, as the ſtory of Selkirk had been publiſhed by Captain Woodes Rogers, who brought him to England, in his account of his voyage round the world, which was printed in 1712, ſeven years before the publication of Robinſon Cruſoe. Daniel De Foe was a man of very uncommon ingenuity, and author of a great number of popular productions. His character has been ſometimes very injuriouſly treated, but he appears to have been a man of great integrity, and of an high degree of public ſpirit; an ardent and enlightened friend to the intereſts of liberty. Beſides his other works, his political and commercial writings have been much and deſervedly applauded.

Juan Fernandez is ſituated in about 33 degrees of ſouth latitude; and 83 degrees of weſt longitude; what o'clock is it there, when it is noon with us? *Anſ.* 28 minutes paſt 6 in the morning.

No. 135. VELOCITY OF THE EARTH AT THE EQUATOR. The circumference of our earth under the equator is 21,600 geographical, or 25,020 Engliſh miles; now this body turning on its axis in about 24 hours, at what rate an hour, Engliſh meaſure, are the inhabitants, ſituated under the equator, carried from weſt to eaſt by the rotation? *Anſ.* 1042½ miles.

N. B. The perſons thus ſituated are thoſe living in the iſlands of Celebes, Borneo, and Sumatra, in the Eaſt-Indies; in the ſouth part of Africa; and in Terra Firma and Guiana, in South America.

No. 136. VELOCITY OF THE EARTH AT LONDON. The velocity of the parts of the earth near the equator greatly exceeds the rapidity of motion of the parts in latitudes approaching the poles, as will be evident by the bare inſpection of a terreſtrial globe. In the parallel of latitude in which London is ſituated, a degree of longitude is only about 37 geographical, or 42 Engliſh miles; conſequently, the circumference of the globe in this parallel is but about 15,120 Engliſh miles. At what rate per hour are *we* carried by the earth's diurnal rotation? *Anſ.* 630 miles.

No. 137. EQUESTRIAN EXPEDITION. Mr. Cooper Thornhill, an innkeeper at Stilton, in Huntingdonſhire, rode from that place to London, and back again, and alſo a ſecond time to London, in one day; which made in all 213 miles. He undertook to ride this journey with

with ſeveral horſes in 15 hours, but performed it in 12 hours and a quarter.

Some years ago, Lord James Cavendiſh rode from Hyde-Park-Corner to Windſor-Lodge, which is upwards of 20 miles, in leſs than an hour.

Sir Robert Cary rode near 300 miles in leſs than 3 days, when he went from London to Edinburgh, to inform King James of the death of Queen Elizabeth. He had ſeveral falls and ſore bruiſes on the road, which occaſioned his going battered and bloody into the royal preſence.

The celebrated Marquis de la Fayette, now ſo iniquitouſly impriſoned by a deſpot on the Continent, rode in Auguſt 1778, from Rhode-Iſland to Boſton, near 70 miles diſtant, in ſeven hours, and returned in ſix and a half.

Dr. Gordon's Hiſt. Amer. War, vol. iii. *p.* 168.

Mr. Foſard, of Park-Lane, London, for a wager of £150 againſt £100, undertook to ride 40 miles in two hours, over Epſom courſe. He rode 2 miles more than had been agreed on, and performed it in 5 minutes under time, in October 1789.

Mr. Wilde, an Iriſh gentleman, lately rode 127 miles on the courſe of Kildare in Ireland, in 6 hours and 20 minutes, for a wager of 1000 guineas.

Theſe equeſtrian performances ſeem to countenance Shakeſpeare's hyperbolical language on this ſubject:

> I've heard of riding wagers,
> Where horſes have been nimbler than the ſands
> That run i' th' clock's behalf.
>
> CYMBELINE.

The inimitable humour with which Shakeſpeare pourtrays "Hal's" frolics, and "the fat knight's" proweſs at Gad's-Hill, a few miles from Rocheſter, Kent, has immortalized that otherwiſe obſcure ſpot. But the following incident, the moſt ſingular, perhaps, on record, ſuperadded, in 1676, no ſmall degree of temporary notice to its long eſtabliſhed celebrity.

One NICKS having committed a robbery there about 4 in the morning, and ſuſpecting himſelf recognized by the party robbed, made for Graveſend, where he ferried over the Thames, and rode to York with ſuch ſpeed, that, as was atteſted by the chief magiſtrate at his trial, he appeared on a bowling-green in that city, at 8 o'clock the ſame evening; which circumſtance ſo credibly and ſolemnly vouched, occaſioned his acquittal; the jury judging it morally impoſſible for *the ſame horſe* to bear the ſame man ſo long a journey in 16 hours.

The diſtance is computed at 214 miles: ſuppoſing his horſe to have reſted on the road for the ſpace of 2 hours, what was the average expedition of every other hour? *Anſ.* 15 miles $\frac{1}{4}$ $\frac{2}{14}$.

N. B. One of the fleeteſt race-horſes ever known was CHILDERS, who ran 7420 yards, the ſpace of one of the Newmarket horſe-courſes, in $7\frac{1}{2}$ minutes; which is at the amazing rate of more than $33\frac{1}{2}$ miles an hour.

No. 138. PEDESTRIAN EXPEDITION. Euchidas, a citizen of Platæa, went from thence to Delphos, to bring the ſacred fire. This he obtained, and returned with it the ſame day before ſun-ſet, having travelled 125 Engliſh miles. No ſooner had he ſaluted his fellow-citizens, and delivered the fire, than he fell at their feet, and expired.

Rollin's Anc. Hiſt. vol. ii. *p.* 509.

After the battle of Marathon, a ſoldier was ſent from the field to announce the victory at Athens. Exhauſted with fatigue, and bleeding from his wounds, he had only time to cry out, "Rejoice, we are conquerors!" and immediately expired.

Dr. Rutherford's Anc. Hiſt. vol. i. *p.* 446.

Powell, the celebrated Engliſh pedeſtrian, performed many aſtoniſhing journies on foot. Among theſe, was his expedition from London to York and back again in 1788, which he completed in 140 hours.

Suppoſing Powell to have reſted 40 hours in his journey, at what rate per hour did he travel, York being 198 miles from London? *Anſ.* 3 miles and $\frac{1}{4}\ \frac{84}{100}$.

No. 139. JOSEPH SOLD. The hiſtory of Joſeph has ſuch a majeſtic ſimplicity in the relation, and exhibits ſo affecting a portrait of human nature, that it overwhelms us alternately with viſſicitudes of joy and ſorrow. His conduct, in many reſpects, is highly deſerving of imitation; and his behaviour, under a moſt enſnaring temptation, beſpeaks a mind whoſe paſſions were in entire ſubjection to the ruling principles of reaſon and conſcience; it manifeſts the moſt delicate ſentiments of honour, and the moſt lively impreſſions of religion; and, finally, it diſplays, in a ſtrong light, one of the moſt amiable virtues that can adorn the human character, GRATITUDE*.

From the pathetic and intereſting ſtory now under conſideration, youth may learn a moſt important leſſon. They may ſee the natural but fatal progreſs of vice and wickedneſs; how eaſily and almoſt neceſſarily men proceed from bad actions to worſe. The ſeeds of envy and jealouſy, in Joſeph's brethren, grew by degrees into actual hatred; and hatred, by an eaſy tranſition, degenerated into intentional murder—the murder of a brother! "When a turn is once made from the ſtraight path, who ſhall preſcribe limits to deviation?"

Joſeph was ſold for 20 pieces of ſilver; ſuppoſed by commentators to have been ſhekels, whoſe total value was £2 7*s.* 6*d.* what is one worth according to this ſupputation? *Anſ.* 2*s.* 4*d.* $\frac{1}{2}$.

No. 140. AN ENGLISHMAN'S HOUSE IS HIS CASTLE. A houſe is defined to be an habitation; a place built with conveniencies to live in; or a building wherein to ſhelter a man's perſon and goods from the inclemencies of the weather and the injuries of ill-diſpoſed perſons. Accordingly many ſalutary laws have been enacted not only

* See Gen. xxxix. 9.

to

to preſerve this particular ſpecies of property, but for the perſonal ſecurity of its inmates. If a man's houſe be attacked with intent to murder, and the owner, or his ſervants, kill the ruffians in defending him and his houſe, it is not felony, and incurs no forfeiture. The doors of a houſe may not be broken open for arreſts, except in caſes of treaſon or felony, &c. In fine, the ancient laws of England made a houſe alike ſacred from the intruſion of the ruffian and the magiſtrate—even *the firſt magiſtrate*. Agreeably to this conſtitutional doctrine the *late* earl of Chatham obſerved, that "The winds and the elements might enter the cottage of the peaſant, but not the KING, without the peaſant's permiſſion."

It muſt, however, be acknowledged, that, by ſome late enormous extenſions of the exciſe laws, and other circumſtances, the houſes of Engliſhmen are not now ſo ſacred, nor ſo well protected, as in the times of their anceſtors. If a man were impartially to review all the new acts paſſed in ſome late parliaments, he might be tempted to ſuſpect, that the buſineſs of parliament was not to enlarge, to ſecure, or to eſtabliſh the rights of the people; but to increaſe the royal prerogative, and to leſſen, and render inſecure, the public liberty.

But to endear our dwellings to us, let it be conſidered, that a man's houſe is his *home;* and that "a well-ordered home," eſpecially among the enlightened, and the virtuous, if they have a ſufficiency of the neceſſaries of life,

> Is the reſort
> Of love, of joy, of peace and plenty, where
> Supporting and ſupported, poliſh'd friends
> And dear relations mingle into bliſs.
>
> THOMSON.

Nor, according to another poet, are domeſtic comforts altogether denied even the laborious peaſant: he has, at leaſt in times of national proſperity,

> His little ſmiling cottage, where at eve
> He meets his roſy children at the door,
> Prattling their welcomes, and his honeſt wife,
> With good brown cake and bacon ſlice, intent
> To cheer his hunger after labour hard.
>
> DYER.

Suppoſe the expences of a houſe to amount to £300 per annum, how much is expended quarterly, monthly, and weekly? *Anſ.* £75 per quarter; £25 per month; £5 15*s.* 4*d.* $\frac{1}{2}$. per week.

No. 141. LOTTERIES. Lottery is a kind of public game at hazard, frequent in England, France, and Holland, in order to raiſe money for the ſervice of the ſtate, and appointed with us by act of parliament. But in the reign of Queen Anne, it was thought neceſſary to ſuppreſs lotteries, as nuiſances to the public; and the "pernicious effects of this mode of raiſing money for the uſe of the ſtate have, as Dr. Towers juſtly remarks, been ſince repeatedly pointed

out, and are ſo generally acknowledged, that ſcarcely any man entertains the leaſt doubt upon the ſubject. Yet lotteries continue to be ſupported by thoſe in adminiſtration; which could not be the caſe, if the welfare of the people were really the object of thoſe to whom the powers of government are intruſted."

Thoughts on the Commencement of a New Parliament.

The Romans invented lotteries, to enliven their Saturnalia. This feſtival, which was inſtituted in commemoration of the freedom and equality which prevailed on earth in the golden reign of Saturn, began by the diſtribution of tickets which gained ſome prize. Auguſtus appointed lotteries which conſiſted of things of little value; but Nero eſtabliſhed ſome for the people, in which 1000 tickets were diſtributed daily, and ſeveral of thoſe who were favoured by fortune became rich by them. Heliogabalus invented ſome lotteries of a very ſingular nature: the prizes were either of great value, or of none at all; one gained a prize of ſix ſlaves, and another of ſix flies; ſome got valuable vaſes, and others vaſes of common earth. A lottery of this kind exhibited an excellent picture of the inequality with which fortune diſtributes her favours.

The firſt lottery in England, of which we have any account, was drawn at the weſt door of St. Paul's cathedral, in 1569, and conſiſted of 40,000 lots at 40*s.* each. The prizes were plate, and the profits were to be applied towards repairing the havens of this kingdom. In 1612, King James, for the plantation of Engliſh colonies in Virginia, appointed a lottery at the place where the one juſt mentioned had been determined. The principal prize of this laſt was 4000 crowns in fair plate.

In the ſtate lottery of the year 1787, one of the £20,000 prizes came to a club conſiſting of 35 clerks in the India-Houſe. To how much did the ſhare of each amount? *Anſ.* £571 8*s.* 6*d.* $\frac{3}{4}$.

No. 142. The Man of Ross.

But all our praiſes why ſhould lords engroſs?
Riſe, honeſt muſe! and ſing the Man of Ross.
Who hung with woods yon mountain's ſultry brow?
From the dry rock who bade the waters flow?
Whoſe cauſeway parts the vale with ſhady rows?
Whoſe ſeats the weary traveller repoſe?
Who taught that heav'n-directed ſpire to riſe?
"The *Man of Roſs*," each liſping babe replies.
Behold the market-place with poor o'erſpread!
The *Man of Roſs* divides the weekly bread:
He feeds yon alms-houſe, neat, but void of ſtate,
Where age and want ſit ſmiling at the gate:
Him portion'd maids, apprentic'd orphans bleſt,
The young who labour, and the old who reſt.
Is any ſick? the *Man of Roſs* relieves,
Preſcribes, attends, the med'cine makes and gives.
Is there a variance? Enter but his door,
Balk'd are the courts, and conteſt is no more.

Thrice

Thrice happy man! enabled to purſue
What all ſo wiſh, but want the power to do!
Oh ſay, what ſums that gen'rous hand ſupply?
What mines, to ſwell that boundleſs charity?
Of debts and taxes, wife and children clear,
This man poſſeſs'd—*five hundred pounds a year.*

POPE.

This praiſe of the *Man of Roſs*, as Dr. Johnſon remarks, deſerves particular examination. He is ſaid to have diffuſed all the bleſſings juſt enumerated, from *five hundred pounds a year.* Wonders are willingly told, and willingly heard. The truth is, that he was a man of known integrity, and active benevolence, by whoſe ſolicitation the wealthy were perſuaded to pay contributions to his charitable ſchemes. This influence he obtained by an example of liberality exerted to the utmoſt extent of his power, and was thus enabled to give more than he had. This account was received from the miniſter of the place; and I have preſerved it, continues Johnſon, that the praiſe of a good man being made more credible, may be more ſolid. Narrations of romantic and impracticable virtue will be read with wonder, but that which is unattainable is recommended in vain; that good may be endeavoured, it muſt be ſhown to be poſſible.

Johnſon's Life of Pope.

The name of the Man of Roſs was JOHN KYRLE; he died in 1724, in the 82d, or, according to other accounts, in the 90th year of his age. He is ſaid to have reſerved only £50 a year for his own particular uſe out of his annual income, devoting the reſt entirely to the purpoſes of philanthropy.

Suppoſing his charities divided into equal hebdomadal portions, what was the weekly diſtribution? *Anſ.* £8 13*s.* 0*d.* ¾.

N. B. Roſs is a fine old town on the river Wye in Herefordſhire, one of the pleaſanteſt and moſt picturesque parts of England. The two charity-ſchools of Roſs have been lately (1786) enriched by a legacy of £200 per annum from a Mr. Scott, hence denominated the "Second Man of Roſs."

No. 143. POSTS. Poſts, in their preſent improved ſtate, are of very modern invention; for, even in France, the firſt place of their adoption, they were, in 1619, ſtill unprovided with a letter-office. The year 1635, during Charles the Firſt's reign, preſents the firſt regular eſtabliſhment of the kind in England. A private perſon projected, in 1683, the uſeful conveyance of letters and parcels, by the penny-poſt, throughout London and its ſuburbs.

The ancients, being deſtitute of the conveniency of poſts, were accuſtomed when they took a long journey, and were deſirous of ſending back any news with uncommon expedition, to take tame pigeons with them. When they thought proper to write to their friends, they let one of theſe birds looſe, with letters faſtened to its neck: the bird, once releaſed, would never ceaſe its flight till it arrived at its neſt and young ones.

Often

Often through the fields of air
Song or billet-doux I bear.

ANACREON'S DOVE.

The cuſtom of making pigeons the vehicles of poſtage ſtill retains among the Turks, and in ſeveral eaſtern countries; and Tavernier obſerves, that, at this day, the conſul of Alexandretta tranſmits diurnal intelligence by them to Aleppo.

The ſame winged meſſengers have been uſed by the Dutch in ſieges. When Haerlem was reduced to the laſt extremity, and on the point of opening its gates to a baſe and barbarous enemy, a deſign was formed to relieve it; and the intelligence, ſays Thuanus, was conveyed to the citizens by a letter which was tied under the wing of a pigeon.

Crows were alſo ſometimes employed as letter-bearers; and Cecinna, a Roman knight in the intereſt of Pompey, and the particular friend of Cicero, uſed to bring up young ſwallows, and ſend them as meſſengers, to carry news to his friends.

It may be obſerved, that few inſtitutions are replete with more advantages, or productive of more eventual conſolation, than that of poſts. Indeed, their utility, not to ſay neceſſity in commercial concerns, is too obvious to admit of any doubt. The aids they adminiſter in political tranſactions are little leſs apparent. Next to a free preſs, they are the grand underminers of deſpotic ſovereignty. But it is in the more confined and humble ſcenes of ſocial life, that they diſpenſe comfort, and diffuſe joy, with a liberality which we ſeldom hear adequately acknowledged; although to them the abſent parent, child, friend, and other endearing relatives, are repeatedly indebted, not only for the removal of anxiety, and ſolace of dejection, but often even for the ſole antidote to deſpondency.

The Cyclopædia ſtates the annual groſs amount of our foreign and inland poſt-offices, ſo far back as the year 1764, to be £432,048; what was the quarterly, monthly, and weekly income at that period? *Anſ.* £108,012 quarterly, £36,004 monthly, £8308 12*s.* 3*d.* $\frac{1}{2}$, weekly.

N. B. The whole revenue of the poſt-office at preſent, 1795, is ſtated to amount to £627,000: nearly the half of this ſum is, however, ſaid to be conſumed in office expences.

No. 144. MAYOR OF LONDON. A mayor is the chief magiſtrate of a corporation, who, in London and York, is called *Lord-Mayor*. He is choſen annually by the citizens out of the body of aldermen, whoſe number in the metropolis is 25, and who preſide over the 25 wards of the city. The flattering title of *lord* is ſaid to have been firſt annexed to that of mayor, in the time of Richard II. This happened in conſequence of Walworth, then mayor of London, having, with a blow of his dagger, ſtunned the famous Wat Tyler, and brought him to the ground (whom the king's other attendants inſtantly diſpatched) in a conference which Tyler had with that monarch in Smithfield, A. D. 1381. But if the mayor of London

obtained a new title by this tranſaction, the conduct of Walworth in it was not very honourable. The king had agreed to have an interview with Tyler; and the mayor of London ought not to have acted as an aſſaſſin on the occaſion. Thoſe who were concerned in the inſurrection under Wat Tyler were guilty of ſome indefenſible actions; but they had real grievances to complain of; and it has been obſerved, that "it is eaſy for the opulent, and thoſe in elevated ſtations, to talk of the unreaſonable diſcontents of the multitude, and their aptitude to ſedition and revolt; but it would appear, upon an impartial inquiry, that there have been very few inſtances of very general riſings among the common people, the primary cauſe of which has not been the oppreſſions of the poor, in ſome way or other, by the great and wealthy." Many of the common people in England, at the time of the inſurrection under Wat Tyler, particularly thoſe who were called tenants in villenage, were in a ſtate of great vaſſalage and ſubjection to the lords and proprietors of the lands, loaded and oppreſſed with taxes, and in a ſtate of great ſlavery. Therefore, though ſome of their proceedings at this period might be cenſurable, they were certainly contending for that liberty, to which every man has a natural claim, and of which no power on earth had any right to deprive them.

To ſupport the dignity of his important and honourable office, the lord-mayor of London is allowed by the city the ſum of £6000; how much is that per month, week, and day? *Anſ.* £500 per month; £115 7*s.* 8*d.* ¼. per week; £16 8*s.* 9*d.* per day.

No. 145. BRITISH CONSTITUTION. It has been juſtly obſerved, that our conſtitution is a government of *laws*, not of *perſons*. *Allegiance* and *protection* are obligations that cannot ſubſiſt ſeparately; when one fails, the other falls of courſe. The true etymology of the word LOYALTY (derived from the French word *loy*, law) is an obedience to the prince, in all his commands *according to law*; that is, to the *laws themſelves*. The meaning of the old maxim, that THE KING CAN DO NO WRONG, is, that he has no *lawful power* to do wrong, and our conſtitution conſiders no power AS IRRESISTIBLE, BUT WHAT IS LAWFUL.

That the Engliſh government ought to be a good government; that the perſons and property of individuals ought to be well protected; and that the aged poor ought to be comfortably provided for; are points which, we imagine, no one will be inclined to controvert, who conſiders, that the taxes annually levied in England, including the poor-rates, are ſaid to amount to the enormous ſum of 24 millions ſterling. How much is that per day? *Anſ.* £65,753 8*s.* 5*d.* ¼.

No. 146. BRITISH MONARCHY. It has been no leſs energetically, than truly obſerved by Mr. Sheridan, that "a king of England is not ſeated on a ſolitary eminence of power, but ſees in the co-exiſtent branches of the legiſlature *his equals*; and in the LAW recognizes HIS SUPERIOR:" a grand conſtitutional maxim, which ſhould be the *phylactery*, the *frontlet between the eyes*, of every Engliſhman;

liſhman; which *ſhould be not only indelibly impreſſed upon his own heart, but taught diligently to his children.*

The monarchy of the Britiſh kingdoms is *limited* and *hereditary**; both males and females being capable of ſucceſſion. The king, however, notwithſtanding the limitations to which the crown is ſubject, is one of the greateſt monarchs reigning over a FREE PEOPLE, from whom *ſolely* deriving his power, he is accountable to them for the delegated truſt.

A Briton, therefore, rejects with ineffable indignation and contempt, the ſlaviſh doctrine of "right divine" in kings, as well as its ſoul-annihilating concomitant, the "enormous faith of *many* made for *one*;" he conſiders the *one* not only made *by*, but *for*, the *many*: and he deems it to be the great conſtitutional doctrine of this country, that kings can only be ſecure in their royalty, while they make the felicity of their ſubjects, by a juſt adminiſtration of the laws, the rule and end of their government. To this purpoſe is the obſervation of Rapin. In a government like that of England, ſays that judicious and impartial hiſtorian, all the king's endeavours to uſurp arbitrary power, are but ſo many ſteps to his own deſtruction.

A king of England, ſaid Gourville, a Frenchman, who will be the *man of his people*, is the greateſt king in the world: but if he will be any thing more, HE IS NOTHING AT ALL. By a fundamental law of the realm, the Britiſh ſovereign muſt profeſs the PROTESTANT religion, neither can he marry a PAPIST.

His annual income, commonly called the civil liſt, is ſtated by ſome political writers at £900,000; by others at £1,000,000 ſterling; how much is that *per hour*, ſuppoſing it to be the latter ſum; and reckoning 8,766 hours in the year? *Anſ.* £114 1*s.* 6*d.* ½.

No. 147. HOURLY VELOCITY OF THE EARTH. It has been obſerved in the ſecond queſtion, that our earth is one of the planets belonging to the ſolar ſyſtem. Its form has been ſtated in the ſixty-ſecond, where alſo its diurnal and annual motions have been ſlightly adverted to. The reſumption of the ſubject will not, we preſume, be found entirely uſeleſs to our young readers. The daily rotation of the earth cauſes the uniform ſucceſſion of light and darkneſs. Our

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* Seven inſtances, however occur, from the time of William the Norman to the preſent period, in which the regular line has been broken; and theſe deviations have been repeatedly authorized by expreſs acts of the legiſlature.

See Dr. Towers's Thoughts on the Commencement of a New Parliament, Appendix, p. 128, *&c.*

It is evident, ſays Mr. Belſham, that the title of George I. was founded ſolely on the choice of the parliament, *i. e.* of the people or nation; and that the uſual order of ſucceſſion was entirely ſuperſeded: more than fifty perſons prior in the order of ſucceſſion being paſſed over in the act of William, which ſettled the crown of England on the houſe of Hanover. So that the rights of the PEOPLE were not only aſſerted, but exerciſed in their full extent: and the family upon the throne is indiſputably *an elected family*, though the general law or rule of ſucceſſion remains unaltered.

Memoirs, vol. i. *p.* 87, *&c.*

ſublime

ſublime poet Milton, who appears to have been greatly enamoured with the beauties of nature, has exerted his unrivalled powers in enhancing her charms in this alternation of day and night, in the following exquiſite lines.

Sweet is the breath of morn, her riſing ſweet,
With charm of earlieſt birds; pleaſant the ſun,
When firſt on this delightful land he ſpreads
His orient beams, on herb, tree, fruit, and flow'r,
Gliſt'ring with dew; fragrant the fertile earth
After ſoft ſhow'rs; and ſweet the coming on
Of grateful evening mild; then ſilent night
With this her ſolemn bird, and this fair moon,
And theſe the gems of heav'n, her ſtarry train.

PARADISE LOST, Book IV.

The annual motion of the earth occaſions the grateful viciſſitude of the ſeaſons, and the difference of the length of the days and nights. In this yearly courſe the earth is ſaid to travel 596,088,000 Engliſh miles. What is the earth's rapidity per hour, the year containing 8,766 hours? *Anſ.* 68,000 miles!

No. 148. ANSON'S VOYAGE ROUND THE WORLD. In September 1740, a ſmall ſquadron of ſhips, commanded by Commodore Anſon, ſet ſail from St. Helen's in the Iſle of Wight, Hampſhire, for the South-Sea, in order to annoy the Spaniards on the coaſt of Chili and Peru, in South America, and to co-operate occaſionally with Admiral Vernon acroſs the iſthmus of Darien, which connects North and South America. The ſcheme is allowed to have been admirably well planned, but it was ruined by unneceſſary delays and unforeſeen accidents. Anſon touched at the Madeiras*; then at St. Catherine's†. In paſſing the ſtreights of Le Maire‡, and doubling Cape Horn §, the dangers he encountered, and the difficulties he ſurmounted, muſt excite ſurpriſe in moſt of the readers of this intereſting and perilous voyage.

Perils and conflicts inexpreſſible
ANSON, with ſteady undeſpairing breaſt,
Endur'd, when o'er the various globe he chas'd
His country's foes. Faſt-gather'd tempeſts rouz'd
Huge ocean, and involved him: all around
Whirlwind, and ſnow, and hail and horror: now,
Rapidly, with the world of waters, down
Deſcending to the channels of the deep,
He view'd th' uncover'd bottom of th' abyſs,
And now the ſtars, upon the loftieſt point
Toſs'd of the ſky-mix'd ſurges. Oft the burſt

* In the Atlantic ocean, W. of Morocco in Africa.
† Coaſt of Brazil, South America; in about 29 degrees S. lat.
‡ Between Terra del Fuego (an iſland S. of South America) and States iſland.
§ South part of Terra del Fuego.

Of

Of loudeſt thunder, with the daſh of ſeas,
Tore the wild-flying ſails and tumbling maſts,
While flames, thick-flaſhing in the gloom, reveal'd
Ruins of decks, and ſhrouds, and ſights of death.

DYER.

Previouſly to this moſt critical juncture, two of his ſhips had been ſeparated from him in a violent ſtorm. Theſe, after putting in at Rio de Janeiro*, returned to Europe. Having accompliſhed the paſſage round Cape Horn, the commodore ſteered to Sacro†; then to Juan Fernandez‡. In this healthful ſpot he continued till the valetudinary part of his men became convaleſcent. Putting to ſea they made prize of ſeveral veſſels, and captured the town of Paita§, in which he found conſiderable booty.

Then Paita's walls, in waſting flames involv'd,
His vengeance felt, and fair occaſion gave
To ſhew humanity and continence,
To SCIPIO's not inferior.

DYER.

Bearing away from hence they ſailed to Quibo‖; then to the bay of Acapulco**; and afterwards ſtretched acroſs the South-Sea towards the Philippine iſles in the Eaſt-Indies. In this paſſage the Glouceſter was abandoned and ſunk; the other veſſels had been deſtroyed for want of men to navigate them; ſo that nothing now remained but the commodore's own ſhip, the CENTURION, and that but very indifferently manned; for the crews had been exceedingly thinned by ſickneſs. Great were the hardſhips and miſery which they ſuſtained, from the ſhattered condition of the ſhips, and from the ſcurvy, when they reached the plentiful iſland of Tinian††, where they were ſupplied with the neceſſary refreſhments. Thence they proſecuted their voyage to Macao, an iſland near Canton in China. The chief object of the commodore's attention now, was the rich annual ſhip that ſails between Acapulco in Mexico, and Manilla, one of the Philippine iſlands. In hopes of intercepting her, he ſet ſail from Canton, and ſteered his courſe back to the ſtreights of Manilla‡‡, near which ſhe actually fell into his hands, after a ſhort but vigorous engagement.

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* Coaſt of Brazil; in about 23 degrees S. lat.
† Coaſt of Chili, South America.
‡ See queſtion 134.
§ Peru, South America; in about 5 deg. S. lat.
‖ An iſland in the Bay of Panama; N. W. part of Terra Firma, South America.
** Coaſt of Mexico, North America; in about 17 deg. N. lat.
†† One of the Marian or Ladrone iſlands in the Eaſt-Indies.
‡‡ Between Manilla and the iſland of Samar. The ſhip was taken about 7 leagues N. E. of Cape Spirito Santo, in the laſt-mentioned iſland.

There his wave-worn bark
Met, fought the proud Iberian, and o'ercame.

DYER.

With

With this valuable and long looked for prize he returned to Canton; from whence he proceeded to the Cape of Good Hope*, purſued his voyage to England, and arrived in ſafety at Spithead † in June, 1744, after an abſence of 3 years and 9 months.

Commodore Anſon was ennobled in conſequence of defeating a French ſquadron off Cape Finiſterre, in Spain, in the year 1747.

Lord Anſon's voyage round the world was publiſhed in 1748; and no production of this kind ever met with a more favourable reception, four large impreſſions being ſold off within a twelvemonth: it has been tranſlated into moſt of the European languages; and ſtill ſupports its reputation, having been repeatedly printed in various ſizes. It was compoſed under his lordſhip's inſpection; and though it carries Mr. Walter's name in the title-page, is ſaid to have been really written by Mr. Benjamin Robins; but this has lately been denied by Mr. Walter's widow.

The galleon, or Manilla ſhip, had 600 men on board when ſhe was captured; the Centurion only 227, thirty of whom were boys. The cargo, at the loweſt eſtimation, was computed to be worth £313,000 ſterling‡. Allowing two thirds of this ſum to the commodore and his officers, and dividing the remainder equally among the men and boys belonging to the Centurion, how much had theſe laſt each? *Anſ.* £459 12*s.* 4*d.* ¼.

REDUCTION

IS the method of bringing numbers from one name or denomination to another, ſo as ſtill to retain the ſame value; and is performed by Multiplication and Diviſion: by the former great names are brought into leſs, and by the latter leſs are brought into greater.

EXAMPLES.

No. 149. THE SPLENDID SHILLING. This is the title of one of the fineſt burleſque poems in our language. It abounds in exquiſite ſtrokes of humour and raillery; and has beſides, as Dr.

* South part of Africa.

† A famous road between Portſmouth and the Iſle of Wight.

‡ Some value this ſhip at £400,000; and the other veſſels and effects deſtroyed by Anſon at £600,000: ſo that the damage done to the enemy in this expedition amounted to a million ſterling. It muſt, however, be admitted, that though this fortunate commander enriched himſelf, the Britiſh nation was not indemnified for the expence of fitting him out; and the original deſign was entirely defeated.

Johnſon remarks, the uncommon merit of an original. By contraſting the happineſs of a full and empty purſe it may, moreover, contain a moral of ſome importance to youth. They may hence learn (to uſe the phraſeology of the facetious dean of St. Patrick's) *to look upon a ſhilling as a ſerious thing*; ſince, as our bard ſings,

> Happy the man who, void of cares and ſtrife,
> In ſilken or in leathern purſe retains
> A ſplendid ſhilling! he, nor hears with pain
> New oyſters cry'd, nor ſighs for cheerful ale.
>
> PHILIPS.

Suppoſe a perſon to have in a purſe the ſum mentioned in this queſtion; a guinea; three crown pieces; ſeven half crowns; four ſixpences, and three ſilver three-pences; how many farthings would he have in all? *Anſ.* 2748 farthings.

No. 150. A GUINEA. Our gold coin called a guinea, whoſe value is 21 ſhillings, received that denomination, becauſe the gold, of which the firſt was ſtruck, had been brought from a part of Africa ſo named. It formerly bore the impreſſion of an elephant on the ſame account.

Sir Nicholas Criſpe, a merchant of London, gave and procured Charles the Firſt in his exigencies £100,000; and, when he was driven from the exchange, raiſed a regiment and commanded it.

Dr. Johnſon's Life of Waller.

Subtract a guinea from the ſum above-mentioned, and bring the remainder into farthings. *Anſ.* 95,998,992 farthings.

No. 151. POPE'S HOMER. Of the ſiege of Troy, which furniſhed the ſubject of the Iliad and the Odyſſey, written by Homer, ſome account has been given in queſtion the eleventh, to which our young readers are requeſted to recur.

A tranſlation of the Iliad with notes, was begun by Mr. Pope in 1712, and by his own diligence, with ſuch help as kindneſs or money could procure him, he finally completed the verſion in 1720. A work which Dr. Johnſon ſtyles a poetical wonder; a performance which no age or nation can pretend to equal; the nobleſt verſion of poetry which the world has ever ſeen. Pope, continues the doctor, cultivated our language with ſo much diligence and art, that he has left in his Homer a treaſure of poetical elegancies to poſterity; and his verſion may be ſaid to have tuned the Engliſh tongue; for ſince its appearance no writer, however deficient in other powers, has wanted melody. Soon after the publication of the Iliad, Pope undertook, with the aſſiſtance of Fenton and Broome, to tranſlate the Odyſſey, which was accompliſhed in 1725; and deſerves, according to Dr. Johnſon, the ſame general praiſe as the tranſlation of the Iliad.

Pope received for the Iliad, including ſubſcriptions and the ſale of the copy-right, the ſum of £5320 4s.

With

With part of this money he purchaſed a houſe at Twickenham, to which his reſidence afterwards procured ſo much celebration. Pope died in 1744, and was buried at Twickenham.

How many farthings are contained in the ſum above mentioned? *Anſ.* 5,107,392 farthings.

No. 152. THE FATAL EFFECTS OF PROFLIGACY. It has been obſerved, ſays Dr. Johnſon, in all ages, that the advantages of nature or of fortune have contributed very little to the promotion of happineſs; and that thoſe whom the ſplendor of their rank, or the extent of their capacity, have placed upon the ſummits of human life, have not often given any juſt occaſion to envy in thoſe who look up to them from a lower ſtation. An obſervation eminently illuſtrated in the ſubſequent relation.

George Villiers, duke of Buckingham, ſon of the duke of Buckingham who was aſſaſſinated by Felton, was a diſtinguiſhed ſtateſman, poet, and dramatic writer. He is, however, yet more famous for his vices and misfortunes. His morals being very licentious, though he ſometimes performed generous actions, he lived vitiouſly and extravagantly, ſquandered away almoſt the whole of his eſtate, and died in obſcurity. This happened at a remote inn in Yorkſhire, in the year 1687 or 1688; an event affectingly deſcribed, though with ſome exaggeration, by Pope, in the ſubjoined lines.

In the worſt inn's worſt room, with mat half hung,
The floors of plaſter, and the walls of dung,
On once a flock-bed, but repaired with ſtraw,
With tape-ty'd curtains, never meant to draw,
The George and Garter dangling from that bed,
Where tawdry yellow ſtrove with dirty red,
Great VILLIERS lies.—Alas! how chang'd from him,
That life of pleaſure, and that ſoul of whim!
There, victor of his health, of fortune, friends,
And fame; this lord of uſeleſs thouſands ends.

This nobleman's poſſeſſions yielded him annually 48,000,000 farthings; what was his yearly income in pounds ſterling? *Anſ.* £50,000.

No. 153. IMPERIAL GLUTTON. Gluttony, ſays Holiday, is a vice in a great fortune; a curſe in a ſmall one.

Well obſerve
The rule of not too much, by temperance taught,
In what thou eat'ſt and drink'ſt; ſeeking from thence
Due nouriſhment, no gluttonous delight.

MILTON.

Vitellius, a Roman emperor, being raiſed to the throne by his vices, gave himſelf up to all kinds of luxury and profuſeneſs; but gluttony was his favourite vice; ſo that he brought himſelf to a habit of vomiting in order to be able to renew his meals at pleaſure. His food

food was always of the moſt rare and exquiſite nature. The deſarts of Libya, the ſhores of Spain, and the waters of the Carpathian ſea*, were diligently ſearched to ſupply the table of this gormandizing emperor; inſomuch that, as Joſephus aſſerts, if he had reigned long, the whole empire would not have been ſufficient to have maintained his gluttony. He eat four times a day; and Suetonius ſays, that every meal coſt 10,000 crowns: and ſo extravagant was this imperial monſter in every thing, that ſeven millions were ſpent in maintaining him only the ſpace of four months. The people, at length, wearied with his vices and enormities, tore the brutal tyrant from an obſcure retreat, where he had concealed himſelf from their juſt reſentment, dragged him naked through the ſtreets, put him to death, and threw his mutilated body, with all poſſible ignominy, into the river Tyber. Such, ſays the hiſtorian, was the merited end of this monſter, after a ſhort reign of 8 months and 5 days; ſo that Plutarch compares him, and his two predeceſſors†, to the kings in tragedies, who juſt appear upon the ſtage, and then are deſtroyed.

How many crowns, half-crowns, ſixpences, pence, and farthings, are in the enormous ſum expended for Vitellius's *four months* ſupport? *Anſ.* 28,000,000 crowns; 56,000,000 half-crowns; 280,000,000 ſixpences; 1,680,000,000 pence; and 6,720,000,000 farthings.

No. 154. ROYAL-EXCHANGE. This magnificent ſtructure was firſt erected in 1567, for the reception of merchants, at the ſole charge of Sir Thomas Greſham, an eminent merchant of London. This illuſtrious and benevolent character, in conſequence of his tranſacting the mercantile buſineſs of Queen Elizabeth, is ſuppoſed to have obtained the appellation of the "Royal Merchant." He was a great encourager of learning, and the liberal arts‡, and eminent for the number and extent of his charitable donations. The queen viſited the

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* Part of the Mediterranean, between Rhodes and Crete.

† Otho and Galba.

‡ Sir Thomas Greſham was a very ſplendid benefactor to the city of London. Beſides the Royal-Exchange, Sir Thomas Greſham left his magnificent reſidence, near Biſhopſgate-Street, for a college for the benefit of the citizens of London. He thought that as the inhabitants of that city poſſeſſed much money, it would alſo be advantageous that ſome knowledge and learning ſhould be diffuſed among them. He bequeathed annuities for public lectures in divinity, law, phyſic, aſtronomy, geometry, muſic, and rhetoric; and his houſe was appointed for the reſidence of the lecturers, and there the lectures were to be read. But GRESHAM-COLLEGE has ſince been turned into the preſent EXCISE-OFFICE in Broad-Street; a change which no friend to learning, or to liberty, can reflect on but with the utmoſt indignation. How far the truſtees of Sir Thomas Greſham have diſcharged the duty of their truſt, cannot be a matter of very difficult determination; and the parliament, which confirmed and adjuſted this ſtrange alteration, may reaſonably be ſuſpected to have been an aſſembly of Goths. No man can ſuppoſe, that the intentions of Sir Thomas Greſham have been anſwered; and if the change of times had rendered ſome alteration of his regulations now proper, his noble deſigns for the promotion of ſcience and learning, in the metropolis of England, ought not to have been ſo completely neglected, as they have been by the preſent arrangements.

Exchange

Exchange in January 1571, and by the ſound of trumpets, her herald named it the *Royal-Exchange**. This grand fabric being deſtroyed by the great fire in 1666, Charles II. rode in ſtate into the city in 1667, and laid the firſt ſtone of the preſent building of the ſame name†, which was completed in about three years, at the expence of 76,190 guineas, 10 ſhillings; how many pounds ſterling did it coſt? *Anſ.* £80,000.

No. 155. An English Patriot. A patriot is one whoſe ruling paſſion is the love of his country.

Andrew Marvell was an eminent example of genuine Engliſh patriotiſm. Being choſen to repreſent his native town, Kingſton upon Hull, in parliament, a little before, and again after the reſtoration, he nobly ſupported the religious and civil liberties of his country, by his writings and his parliamentary intereſt, againſt the arbitrary encroachments of the court on both. The tendency of the ruling powers to Popery, appearing to be countenanced and encouraged by time-ſerving biſhops, and other dignitaries of the church of England, theſe he moſt deſervedly laſhed in ſatirical writings, and at the ſame time, to check the progreſs of the meaſures taken by government to introduce it again, he publiſhed an account of the growth of Popery and arbitrary power in England, from 1675 to 1677. This famous tract gave great offence to the miniſtry, but it opened the eyes of the people, and had a ſenſible effect in parliament. Prince Rupert took great delight in Marvell's converſation; and much pains were taken to bring him to take the ſide of adminiſtration, but in vain; his patriotiſm being proof againſt all the enſnaring offers of court honours, and court emoluments.

> Nought could his firmneſs ſhake, nothing ſeduce
> His zeal, ſtill active for the common-weal;
> Nor ſtormy tyrants, nor corruption's tools,
> Foul miniſters, dark-working by the force
> Of ſecret-ſapping gold. All their vile arts;
> Their ſhameful honours, their perfidious gifts,
> He greatly ſcorned.
>
> Thomson.

The following is one of the various inſtances adduced in proof of this illuſtrious patriot's incorruptible integrity.

When the lord-treaſurer Danby was ſent by Charles II. to offer him a thouſand pounds in money, as an unconditional preſent from the king, and only a tribute to his great merit, he ſpurned the inſidious offer, though as ſoon as that nobleman had withdrawn, he was himſelf obliged, from the narrowneſs of his circumſtances, to borrow a guinea from a friend.

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* Hume, vol. v. p. 483. Rapin, vol. vii. p. 374.
† Rapin, vol. xi. p. 314.

The

The honeſt man
Simple of heart, prefers inglorious want
To ill-got wealth.

PHILIPS.

Subtract the loan from the intended court-bribe, and bring the remainder into farthings. *Anſ.* 958,992 farthings.

No. 156. AN AMERICAN PATRIOT. The following noble inſtance of diſintereſted patriotiſm was exhibited during the American war. When the Britiſh commiſſioners were in America, endeavouring to promote a re-union of the two countries, Mrs. Ferguſon, the intimate friend of Governor Johnſtone, one of the commiſſioners, informed Mr. Reed, that he might have *ten thouſand pounds*, and any office in the colonies in the king's gift, if he would engage his intereſt to forward the buſineſs of their miſſion. *I am not worth purchaſing*, replied the patriot, *but, ſuch as I am, the king of Great-Britain is not rich enough to do it.*

Dr. Gordon's Hiſt. Amer. War, vol. iii. *p.* 172.

How many farthings and guineas are in the ſum above mentioned? *Anſ.* 9,600,000 farthings; 9523 guineas, 17 ſhillings.

No. 157. TWO VILLAGE-HAMPDENS. I will deſerve, ſays that learned and ingenious writer, Mr. Gilbert Wakefield, the applauſes of every true Briton, and honeſt patriot, by recording the memorable exertions of two individuals in private life, which will ſanctify their remembrance to the worſhippers of LIBERTY in ages yet unborn:

Two Village-Hampdens, that with dauntleſs breaſt
The little tyrants of their fields withſtood.

The firſt of theſe heroes is Mr. TIMOTHY BENNETT, of Hampton-Wick, near Richmond, Surrey; and the following is a ſhort hiſtory of his achievement.

The foot paſſage from this village, through *Buſhy-Park* (a royal demeſne) to *Kingſton-upon-Thames*, had been for many years ſhut up from the public. This honeſt Engliſhman, "*unwilling*" (it was his favourite expreſſion) "*to leave the world worſe than he found it*," conſulted a lawyer upon the practicability of recovering this road, and the probable expence of a legal proceſs. "I have *ſeven hundred pounds*, ſays this admirable perſon, which I ſhould be willing to beſtow upon this attempt. It is all I have, and has been ſaved through a long courſe of honeſt induſtry." The lawyer informed him, that no ſuch ſum would be neceſſary to produce this effect: and Timothy determined accordingly to proceed with vigour in the proſecution of this public claim. In the mean time, Lord Halifax, ranger of Buſhy-Park, was made acquainted with his intentions, and ſent for him. I am, adds Mr. Wakefield, poſſeſſed of an excellent engraving, which repreſents this worthy, of an inimitably firm and complacent aſpect,

ſitting down in the attitude of his converſation with his lordſhip *. "And who are you, that have the aſſurance to meddle in this affair?" "My name, my lord, is *Timothy Bennett, Shoe-Maker, of Hampton-Wick.* I remember, an't pleaſe your lordſhip, to have ſeen, when I was a young man ſitting at my work, the people cheerfully paſs by my ſhop to Kingſton-Market; but now, my lord, they are forced to go round about through a hot ſandy road, ready to faint beneath their burdens, and *I am unwilling to leave the world worſe than I found it.* This, my lord, I humbly repreſent, is the reaſon of my conduct." "Begone, you are an impertinent fellow," replied the lord. However, upon mature reflection, his lordſhip, convinced of the equity of the claim, notwithſtanding the advice of his friends to perſiſt, beginning to compute the ignominy of defeat: LORD HALIFAX, the NOBLEMAN, nonſuited by TIMOTHY BENNETT, the SHOE-MAKER—and the improbability of ſucceſs, deſiſted from his oppoſition, and opened the road; which is enjoyed without moleſtation to this day.

The other patriotic hero was Mr. LEWIS, of Richmond, who nobly reſiſted ſome meditated *royal* encroachments; for the particulars of which we muſt, however, refer to Mr. Wakefield's Memoirs, p. 250.

"Such diſintereſted inſtances of public virtue," ſubjoins Mr. Wakefield, "redeem the degenerate age, in which we live, from an *univerſal* imputation of ſervility and corruption."

How many guineas, pence, half-pence, and farthings, are in the venerable Mr. Timothy Bennett's fortune? *Anſ.* 666 guineas, 14 ſhillings; 168,000 pence; 336,000 half-pence; 672,000 farthings.

No. 158. GRATEFUL SERVANT.

Sweet is the breath of vernal ſhower;
The bees collected treaſure ſweet;
Sweet muſic's melting fall; but ſweeter yet
The ſtill ſmall voice of gratitude.

GRAY.

There is, as Mrs. Griffiths obſerves, a charming glow of affection and gratitude, with a pleaſing deſcription of the virtue and ſobriety of the ancient peaſantry of England, and the difference of manners and morals between thoſe times and the more modern ones, in the following affecting ſpeech of Adam to Orlando, in Shakeſpeare's "As you like it."

I have five hundred crowns,
The thrifty hire I ſav'd under your father,
Which I did ſtore, to be my foſter-nurſe,
When ſervice ſhould in my old limbs lie lame,

* The inſcription beneath the engraving, is Timothy Bennett, of Hampton-Wick, Middleſex, Shoe-Maker, aged 75.

And

And unregarded age in corners thrown;
Take that: and he that doth the ravens feed,
Yea, providently caters for the ſparrow,
Be comfort to my age! Here is the gold;
All this I give you: let me be your ſervant;
Though I look old, yet I am ſtrong and luſty:
——————— Let me go with you;
I'll do the ſervice of a younger man
In all your buſineſs and neceſſities.

Valuing each crown at 4*s.* 6*d.* ¾. how many pounds ſterling do they contain? *Anſ.* £114 1*s.* 3*d.*

No. 159. Death of Cardinal Beaufort.

Horror gnaws the guilty ſoul
Of dying ſinners; while the good man ſleeps
Peaceful and calm*, and with a ſmile expires.

Glynn.

No document, no example, as Mrs. Griffiths well remarks, is ſo effectual a warning to the mind, as the view of a wicked perſon in his laſt moments. This ſpeaks to the heart, as well as to the underſtanding. We then ſee things and actions in their true light, which the falſe glare of gain or pleaſure, or the involved and complicated nature of ſin, are but too apt to hide from our notice.

A death-bed's a detector of the heart.
Here tir'd diſſimulation drops her maſk;
Through life's grimace, that miſtreſs of the ſcene!
Here real and apparent are the ſame.

Young.

He who has betrayed a friend, wronged the orphan, or oppreſſed the poor, muſt ſurely never have ſeen a penitent on his death-bed! What deſperate madneſs, then, muſt it be, ever to do a deed, for any advantage in life, which after ſo ſhort—*ſo very ſhort*—a ſpace of time, we would give a galaxy of worlds to have undone again.

Nothing can more admirably picture to us the horrors of a guilty conſcience, than the frantic death-bed raving of Cardinal Beaufort, who, a few weeks before, had baſely murdered the mild and virtuous Humphrey, duke of Glouceſter, regent of England in the minority of Henry VI.

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* Sweet are the ſlumbers of the virtuous man.

Addison.

On the contrary, an evil conſcience is a *ſhrew* that gives moſt ſhocking *curtain-lectures*. The great delineator of human nature repreſents the wicked as incapable of taſting "the gifts of all-compoſing ſleep."

Not poppy, nor mandragora,
Nor all the drowſy ſyrups of the world,
Shall ever med'cine thee to that ſweet ſleep.

Shakespeare.

Bring

Bring me unto my trial when you will.
Dy'd he not in his bed? Where ſhould he die?
Can I make men live, whether they will or no?—
O! torture me no more, I will confeſs.——
Alive again? Then ſhew me where he is;
I'll give a thouſand pound to look upon him.—
He hath no eyes, the duſt hath blinded them.——
Comb down his hair; look! look! it ſtands upright,
Like lime-twigs ſet to catch my winged ſoul!——
Give me ſome drink; and bid the apothecary
Bring the ſtrong poiſon that I bought of him.

SHAKESPEARE.

How different is the end of the good man! His evening of life is calm; his ſun goes down with ſweet ſerenity; and he retires from this tranſitory ſcene with cheerfulneſs. Conſcious integrity, and well-grounded hopes of the divine favour, aſſuage the agonies, and ſweeten the bitterneſs of death. "I have ſent for you," ſaid the pious Addiſon, on his death-bed, to a diſſolute young nobleman whom he wiſhed to reclaim, "that you may ſee how a *Chriſtian* can die."

He taught us how to live; and, oh! too high
The price of knowledge, taught us how to die.

TICKELL.

Heav'n waits not the laſt moment; owns her friends
On this ſide death, and points them out to men;
A lecture ſilent, but of ſov'reign pow'r!
To vice confuſion, and to virtue peace.

YOUNG.

The agonizing death of Cardinal Beaufort happened in 1447. Subtract a farthing from the ſum he mentioned, and bring the remainder into guineas. *Anſ.* 952 guineas 7*s.* 11*d.* ¾.

No. 160. EQUALITY.

The ſelf-ſame ſun that ſhines upon a court,
Hides not his viſage from a cottage, but
Looks on all alike.

SHAKESPEARE.

The happineſs of the human race, as Mr. Wakefield juſtly obſerves, can only be raiſed on the foundation of that EQUALITY aſcertained by the laws of our *creation*, and ratified by the *goſpel* in every page, which acknowledges no diſtinction of *bond* or *free*. Intereſt may oppoſe, and ſophiſtry may cavil; but EQUALITY, in its rational acceptation, as relating to civil privileges, and impartial laws, is interwoven with Chriſtianity itſelf: they muſt live or periſh together.

God gave us only over beaſt, fiſh, fowl,
Dominion abſolute; that right we hold

By his donation; but man over men
He made not lord: ſuch title to himſelf
Reſerving, human left from human free.

MILTON.

By the term EQUALITY we are not, however, to underſtand, as Voltaire remarks, that abſurd and impoſſible equality, by which the maſter and ſervant, the magiſtrate and the artificer, the plaintiff and the judge, are confounded together; but that *equality*, by which the ſubject depends on LAWS; and which is the defence of the weak againſt the ambition of the powerful. Nothing then can be more innocent than the uſe of the word *equality*, when taken in the ſenſe meant by its rational advocates. For what do they ſay? aſks that diſtinguiſhed orator, Mr. Fox, that "all men are equal in reſpect of their rights." Equal rights to unequal things; one man to a ſhilling, another to a thouſand pounds; one man to a cottage, another to a palace; but the right in both is the ſame; an equal right of enjoying, an equal right of inheriting or acquiring, and of poſſeſſing inheritance and acquiſition; and theſe, continues that illuſtrious ſenator, are the principles on which all juſt and equitable governments are founded.

Add the two ſums mentioned by Mr. Fox together, and bring the total into ſhillings, three-pences, pence, and guineas. *Anſ.* 20,001 ſhillings; 80,004 three-pences; 240,012 pence; 952 guineas, 9 ſhillings.

No. 161. FIRE OF LONDON. It is well remarked by Dr. Johnſon, that the conflagration of a city, with all its tumult of concomitant diſtreſs, is one of the moſt dreadful ſpectacles which this world can offer to human eyes.

The fire of London, or, as it is ſometimes denominated, "the great fire," broke out at a baker's houſe near London-Bridge, September 2, 1666, at night. The flame ſpread itſelf on all ſides with ſuch rapidity, that no efforts could extinguiſh it, till it had deſtroyed a conſiderable part of the city; no leſs than 400 ſtreets and 13,000 houſes being reduced to aſhes; and the wretched inhabitants, reduced to be ſpectators of their own ruin, were purſued from ſtreet to ſtreet by the flames, which unexpectedly gathered round them. Three days and nights did the fire advance; and it was only by the blowing up of houſes, that it was at laſt extinguiſhed.

Hume, vol. vii. *p.* 415*.

Men, ſays Rapin, failed not to give ſcope to their imagination, and to form conjectures upon the cauſes and authors of this dreadful fire. The pious and religious aſcribed it to the juſt vengeance of heaven, on a city, where *vice* and *immorality* reigned ſo *openly* and *ſhame-*

* About this period an office was ſet up for inſuring houſes from fire, which was principally contrived by Dr. Barbon, one of the firſt and moſt conſiderable builders of the city.

Rapin, vol. xi. *p.* 289.

fully,

fully, and which had not been ſufficiently humbled by the raging peſtilence of the preceding year. Some imputed this misfortune to the malice of the republicans; others to the Papiſts. It was, however, generally imputed to theſe laſt, and the rather, becauſe ſeveral other things afterwards helped to confirm this ſuſpicion.

Rapin, vol. xi. *p.* 286.

It is nevertheleſs obſerved by Hume, that no proof or even preſumption, after the ſtricteſt inquiry by a committee of parliament, ever appeared to authoriſe ſuch a calumny; yet, in order to give countenance to the popular prejudice, the inſcription, engraved by authority on the MONUMENT, aſcribed this calamity to that ſect.

> There London's column, pointing to the ſkies,
> Like a tall bully, lifts the head and lies.
>
> POPE.

The magnificent column juſt mentioned, was built by Sir Chriſtopher Wren. It is 15 feet in diameter, and 202 in height, and coſt the city 12,480,000 farthings. How many pence, half-crowns, and pounds did it coſt? *Anſ.* 3,120,000 pence; 104,000 half-crowns; 52,000 crowns; 13,000 pounds ſterling.

No. 162. THEOLOGICAL TERGIVERSATION. The excellent Mr. Wilde, who continued through life on a ſmall cure of *forty pounds* a year, becauſe he would not repeat his ſubſcription to the articles of our church, aſſerted, that he was verily perſuaded if the BIBLE were burnt to-morrow, and the ALCORAN introduced and eſtabliſhed in its ſtead, we ſhould ſtill, provided the emoluments were the ſame, have plenty of *biſhops*, *prieſts*, and *deacons*.

Mr. Wakefield's Memoirs, p. 60.

That many of the eſtabliſhed clergy are illuſtrious exceptions to this harſh cenſure cannot be doubted. It muſt, nevertheleſs, be admitted, that the ſacerdotal order has been occaſionally diſgraced by wolves in ſheep's clothing. Of this number was that celebrated theological Proteus the VICAR OF BRAY*. This ignominious ſon of the church, whoſe title may have probably outlived the recollection of his *pious* manœuvres, was a Papiſt under the reign of Henry VIII. and a Proteſtant under Edward VI. he was a Papiſt again under the ſanguinary Mary, and at length became a Proteſtant in the reign of Elizabeth. When this ſcandal to the gown was reproached for his verſatility of religious creeds, he made anſwer—"I cannot help that: but, if I changed my religion, I am ſure I kept true to my principle; which, is, *to live and die vicar of Bray.*"

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* Bray is a ſmall village in Berkſhire, three miles from Windſor, and one from Maidenhead. In its neighbourhood Cæſar is ſuppoſed to have croſſed the Thames with his army. But it owes more of its celebrity to the "drum eccleſiaſtic" than the drum military; no village in England having been more frequently mentioned, or oftener celebrated in ſong, on account of its turn-coat vicar.

Conduct like that of our conſcience-proſtituting vicar, doubtleſs ſuggeſted, to that "true child of wit and humour," BUTLER, the following ſatirical lines.

What's orthodox and true believing
Againſt a conſcience? *A good living.*
What makes ALL DOCTRINES plain and clear?
About one thouſand pounds a year.
And that which was prov'd true before,
Prove falſe again? *One thouſand more.*

Suppoſe the ſums mentioned in the preceding lines were added together, and then divided into guineas, crowns, half-crowns, ſhillings, and pence, and of each an equal number, how many would there be of each ſort? *Anſ.* 1352 $\frac{40}{353}$.

No. 163. ŒCONOMY THE BEST SOURCE OF GENEROSITY. Make an impartial eſtimate of your revenue, and whatever it is, ſays a celebrated writer, live upon leſs. Reſolve never to be poor. Frugality is not only the baſis of quiet, but of beneficence. No man can help others that wants help himſelf; one muſt have enough before we have to ſpare.

Frugality, as Dr. Johnſon juſtly remarks, may be termed the daughter of prudence, the ſiſter of temperance, and the parent of LIBERTY. He that is extravagant will quickly become poor, and poverty will enforce dependence, and invite corruption; it will too frequently produce a paſſive compliance with the wickedneſs of others; and there are many who learn by degrees to practiſe thoſe crimes which they ceaſe to cenſure. Without frugality none can be rich, and with it very few would be poor.

See an admirable Paper on this Subject in the Rambler, No. 57.

The following anecdote, which had been long in traditional circulation, has recently found its way into print.

An extremely rich, but ſomewhat penurious character, who was ſurpriſed in the act of reproaching his maid-ſervant with the utmoſt vehemence, for having thrown a match into the fire, when ſhe had uſed but one of its ends, gave, in a few minutes after, FIFTY POUNDS towards the ſupport of a public charity; obſerving, as a reaſon for having juſt reprehended his domeſtic for her extravagance, that *œconomy was the beſt ſource of generoſity.*

Suppoſe the collectors to the above-mentioned charity to have received, in the courſe of a week's collection, excluſive of the donation which gave riſe to the preſent queſtion; 250 guineas; 300 half-guineas; 100 crowns; 45 half-crowns; 173 ſhillings; and 25 ſixpences; how many farthings are contained in the whole of the ſeveral ſums? *Anſ.* 489,504 farthings.

No. 164. ST. PAUL'S CATHEDRAL. This is the moſt capacious, magnificent, and regular Proteſtant church in the world. The length within is 500 feet; and its height, from the marble pavement to the

croſs, on the top of the cupola, is 340. It is built of Portland ſtone, in the form of a croſs; and is the work of Sir Chriſtopher Wren, and undoubtedly the only work of the ſame magnitude that ever was completed by one man*. It is not, however, ſo large as St. Peter's at Rome†; nor is it, as has been erroneouſly ſuppoſed, built after the model of that famous church; but it has been thought ſuperior to it in point of architecture. This eminent architect laid the firſt ſtone in 1675, and ſaw the building finiſhed in 1711‡. The expence of raiſing this ſuperb ſtructure, which was defrayed by a duty on coals, is calculated at a million ſterling.

Suppoſe the above ſum divided into an equal number of guineas, half-guineas, crowns, half-crowns, ſhillings, ſixpences, and threepences; how many would there be of each ſort? *Anſ.* 490,797 $\frac{267}{485}$.

No. 165. BRIDGE. A bridge is an edifice either of ſtone or timber, conſiſting of one or more arches, erected over a river, canal, or the like, for the conveniency of croſſing, or paſſing over from one ſide to the other.

Trajan, a Roman emperor, built one of the moſt magnificent bridges in the world over the Danube. Its ruins are ſtill viſible near Warhel in Hungary.

The famous bridge of Venice, called the Rialto, conſiſts but of a ſingle arch, and that a flat or low one, and is conſidered as a maſterpiece of art. It was erected in 1591, after a deſign of Michael Angelo.

Bridges of boats are either made of copper or wooden boats, faſtened with ſtakes or anchors, and laid over with planks.

One of the moſt notable exploits of Cæſar, was the expeditious making of a bridge of boats over the Rhine.

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* It has been obſerved in a late work, that Sir CHRISTOPHER WREN "was a man of very uncommon and reſplendent merit. He was one of the firſt and moſt active members of the Royal Society, and promoted the deſign of it by diſcoveries in various branches of ſcience. He was alſo the author of many mechanical inventions. Mr. Hooke ſaid of him, that, ſince the time of Archimedes, there ſcarcely ever met, in one man, ſuch a mechanic hand, and ſo philoſophical a mind." It has alſo been remarked, that Sir Chriſtopher Wren erected a greater number of magnificent buildings than were ever produced by any other man. "Beſides St. Paul's cathedral, he erected, after the fire of London, more than fifty churches in that city. Among theſe was St. Stephen's, Walbrook, which is eſteemed his maſterpiece, and the inſide of which is uncommonly beautiful. It has been ſaid, that Italy itſelf can hardly produce a modern building, which can vie with this in taſte and proportion. The Monument, Greenwich and Chelſea Hoſpitals, the palace of Hampton-Court, and the Theatre at Oxford, were alſo of his erection." But notwithſtanding the extraordinary merit of Sir Chriſtopher Wren, he was turned out of his office, as ſurveyor-general of the works, at a very advanced age, in the reign of George I. in order to make room for another man who had better court intereſt

† St. Peter's church at Rome was one hundred and thirty-five years in building; it was not finiſhed but in the reigns of nineteen popes; and twelve ſucceſſive architects were employed in it.

‡ Biog. Dict. Art. Wren.

There

There are fine bridges of boats at Beaucaire, and Rouen, which riſe and fall with the water; and that at Seville is ſaid to exceed them both. The bridge at Rouen is, however, repreſented by a modern writer, as the wonder of the preſent age. There is a wooden bridge over the Drave, five miles long.

We have many bridges of conſiderable note in our own country; particularly at York, Rocheſter, Worceſter, Durham, Berwick, Blenheim, Aberdeen, and Burton. This laſt is the longeſt bridge in England, being 1543 feet in length. But the moſt ſingular bridge in Europe, if not in the world, is that built over the river Tave, or Taaf, near Caerphilly in Glamorganſhire, in South Wales. This admirable piece of architecture conſiſts of one moſt ſtupendous and magnificent arch, and was the work of Mr. William Edward, a poor country-maſon, in the year 1756.

LONDON-BRIDGE was firſt built of timber before the year 994. The ſtone-bridge was begun by King Henry II. in 1176, and finiſhed by King John in 1209.

WESTMINSTER-BRIDGE is reckoned one of the moſt complete and elegant ſtructures of the kind in the known world. It was begun in 1738, and finiſhed in 1750, at the expence of £218,800, defrayed by the parliament.

BLACK-FRIARS-BRIDGE is alſo a very fine bridge, and its architecture has been ſpoken of in terms of high commendation. It commands a fine view of the Thames, and diſcovers the majeſty of St. Paul's in a very ſtriking manner. It was begun in 1760, and completed in 10 years and three quarters, at the expence of £152,840 ſterling, which was diſcharged by a toll upon the paſſengers.

How many farthings are in the amount of the ſums expended in building the laſt-mentioned two bridges; and how many half-crowns, ſixpences, pence, and farthings, are in their difference? *Anſ.* 356,774,400 farthings in the whole; 527,680 half-crowns, 2,638,400 ſixpences, 15,830,400 pence; and 63,321,600 farthings in the difference.

No. 166. HORSE. A beautiful quadruped uſed in war, in the courſe, in hunting, draught, carriage, and to ride on, and whoſe utility to man vaſtly ſurpaſſes that of all other domeſtic animals.

The horſe, ſays Buffon, in a domeſtic ſtate, is a bold and fiery animal; equally intrepid as his maſter, he faces danger and death with ardour and magnanimity. He delights in the noiſe and tumult of arms, and ſeems to feel the glory of victory*. He exults in

* The fiery courſer, when he hears from far
The ſprightly trumpets, and the ſhouts of war,
Pricks up his ears, and trembling with delight,
Shifts pace, and paws; and hopes the promis'd fight.
VIRGIL.

the

the chace*; his eyes ſparkle with emulation in the courſe†. But though bold and intrepid, he is docile and tractable; he knows how to govern and check the natural vivacity and fire of his temper. He not only yields to the hand, but ſeems to conſult the inclination of his rider. Conſtantly obedient to the impreſſions he receives, his motions are entirely regulated by the will of his maſter.

Of all the prone creation, none diſplay
A friendlier ſenſe of man's ſuperior ſway.

HOMER.

It is exceedingly to be regretted, that ſo noble an animal as the horſe, ſhould ſo frequently be treated with unfeeling barbarity by human creatures. See on the ſubject of humanity to animals, Cowper's Taſk, book vi. No. 37 of the Adventurer; and No. 61 of the Guardian. No. 86 of the laſt-mentioned work contains an admirable critique on the celebrated deſcription of the horſe, in the book of Job, which is thus ably paraphraſed by Dr. Young.

Survey the warlike horſe! didſt thou inveſt
With thunder, his robuſt diſtended cheſt?
No ſenſe of fear his dauntleſs ſoul allays:
'Tis dreadful to behold his noſtrils blaze;
To paw the vale he proudly takes delight,
And triumphs in the fulneſs of his might;
High-rais'd he ſnuffs the battle from afar,
And burns to plunge amid the raging war;
And mocks at death, and throws his foam around,
And in a ſtorm of fury ſhakes the ground.
How does his firm, his riſing heart, advance
Full on the brandiſh'd ſword, and ſhaken lance;
While his fix'd eye-balls meet the dazzling ſhield,
Gaze, and return the lightning of the field!
He ſinks the ſenſe of pain in gen'rous pride,
Nor feels the ſhaft that trembles in his ſide;
But neighs to the ſhrill trumpet's dreadful blaſt
Till death; and when he groans, he groans his laſt.

Caligula, an infamous Roman emperor, had a horſe which he called INCITATUS. He clothed him in purple, and fed him with gilt oats out of an ivory manger: but this was not all; he inſiſted upon it, that he ſhould be paid the ſame reſpect that was ſhewn to the firſt perſons

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* ——————The hunter-horſe, unquell'd by toil,
Ardently ruſhes to the rapid chace.

THOMSON.

† The impatient courſer pants in ev'ry vein,
And, pawing, ſeems to beat the diſtant plain;
Hills, vales, and floods, appear already croſt;
And, ere he ſtarts, a thouſand ſteps are loſt.

POPE.

in

in the ſtate; and, to inſult the people ſtill more, he made him a *conſul*, or chief magiſtrate.

Caligula a conſul made his ſteed;
What tho' the beaſt could neither write nor read,
Yet he could talents negative diſplay,
And ſilence oppoſition with a neigh.

SALMAGUNDI.

A celebrated writer has obſerved, that the people of Rome were not very much ſhocked by the circumſtance juſt recited. They had been prepared for it by gradations of corruption, which inſenſibly led them to ſuch a pitch of degeneracy, that they no longer reſembled, in any reſpect, the ſame Romans in the free and virtuous ages of the republic.

Alexander of Macedon had a favourite war-horſe named BUCEPHALUS, becauſe his head was like that of an ox. Many ſurpriſing particulars are related of this noble creature. When he was ſaddled and equipped for battle, he would ſuffer no one to back him but his maſter; and it would not have been ſafe for any other perſon to have approached him. When Alexander wanted to ride him, he would kneel down to facilitate his mounting.

Bucephalus would kneel and ſtoop
(Some write) to take his rider up.

HUDIBRAS.

Some hiſtorians ſay, that this generous animal expired in conſequence of extraordinary exertions to ſave his maſter, in the battle with PORUS; others affirm, that he died at the age of 30, quite worn out. Alexander bewailed his death bitterly, believing that he had loſt in Bucephalus a moſt faithful and affectionate friend; and afterwards built a city on the very ſpot where he was buried, near the Hydaſpes, and denominated it *Bucephalia*, in honour of him.

The horſe which PETER the Great rode at the famous battle of Pultowa, July 11, 1709, is ſtuffed and depoſited in the cabinet of natural hiſtory at Peterſburgh. It is an animal of a moderate ſize, and of the Perſian breed: it is bridled, has a velvet ſaddle, and a houſing embroidered with gold, the ſame which it wore in the engagement. The length of the ſtirrups, which are ſcarcely a foot from the ground, prove the tall ſtature of the Czar.

Original Anecd. of Peter, by Stæhlin.

The Theſſalian horſes were the moſt famous of ancient Greece. In modern times, Arabia is moſt diſtinguiſhed for the excellence of its horſes, and the addreſs of the inhabitants in riding them.

Travellers repreſent the Arabian horſes as having few faults, and no vices. A child, ſays the Count de Ferrieres Sauvebælef, will mount them; and if by any accident he ſhould fall, the animal will ſtop to take him on his back again. Their mares, with which they never part but with pain, and from the moſt preſſing neceſſity, are not

not to be purchaſed but at an immenſe price. Some of theſe creatures will fetch 2000 guineas: but the price of the moſt beautiful Arabian horſe does not exceed 3 or 400.

Trav. in Turkey, &c.

BUCEPHALUS was brought from Theſſaly, and purchaſed for 13 talents, a ſum which Rollin eſtimates at £1900 ſterling.

ECLIPSE, an Engliſh race-horſe, was ſold a few years ago for 1500 guineas. How many pounds, crowns, and farthings, does the difference of the value of theſe two famous animals contain? *Anſ.* £325; 1300 crowns; and 312,000 farthings.

No. 167. SALE OF DUNKIRK. Dunkirk is a maritime town of the French Netherlands, and the moſt eaſterly harbour on the ſide of France which is next to Great-Britain.

The Emperor Charles V. held Dunkirk as part of Flanders. In 1558, the French took it by ſtorm; but the Spaniards recovered it again in about a fortnight, and put all the French to the ſword. In 1646, it was again taken by the French, and retaken by the Spaniards in 1652. In the year 1658, the French, aſſiſted by CROMWELL, attacked and took Dunkirk, which in conſequence of a treaty between the French and Engliſh, was immediately put into the hands of the latter, to whom it proved of very great importance; for, during the war in which it was taken, the Dunkirkers had made prizes of no leſs than 250 of their ſhips, many of which were of great value. The Engliſh, however, only kept it four years; for in 1662, the profligate penſioner of France*, Charles II. to ſupply his extravagance, had the baſeneſs to ſell this valuable acquiſition to Lewis XIV. for the paltry ſum of £500,000, or, according to Hume, only £400,000 ſterling, vol. vii. p. 386.

A penſioned king,
Againſt his country brib'd by Gallic gold,
The port pernicious ſold, the Scylla† ſince,
And ſell Charybdis, of the Britiſh ſeas.

THOMSON.

The

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* Charles II. was the baſe and ignoble penſioner of France, receiving from that kingdom an annual penſion of £100,000 ſterling. His deſign was thereby to render himſelf abſolute. *See Rapin, vol.* xi. *p.* 325, *&c. alſo p.* 335 *and* 416. But to this profligate tyrant a new and expenſive ſtatue was lately erected in the Royal-Exchange. If a new ſtatue was neceſſary in the Royal-Exchange, it ſhould have been a new ſtatue of Sir Thomas Greſham.

† Scylla and Charybdis were a famous rocky promontory and whirlpool in the ſtreight of Meſſina between Sicily and Italy, very terrible to ancient navigators; ſince the pilot who was not ſo ſkilful as to ſteer right between them, was ſure to periſh either in the gulf of the latter, or againſt the rocks of the former; complete deſtruction inevitably following the loſs of the middle paſſage.

The king promiſed that he would lay up all the money in the Tower, and that it ſhould not be touched but upon extraordinary occaſions. It is, however, aſſerted by Burnet, that the immoral monarch ſquandered it away upon his miſtreſſes creatures.

How many farthings, pence, ſhillings, and half-crowns, and of each an equal number, are in the ſum mentioned by Hume as the price of Dunkirk? *Anſ.* 2,219,653 $\frac{11}{173}$.

No. 168. FABLE or APOLOGUE. A fable, or apologue, ſeems to be, ſays Dr. Johnſon, in its genuine ſtate, a narrative in which beings irrational, and ſometimes inanimate, *arbores loquuntur, non tantum feræ*, are, for the purpoſe of moral inſtruction, feigned to act and ſpeak with human intereſts and paſſions.

Fables, obſerves Mr. Addiſon, were the firſt pieces of wit that made their appearance in the world, and have been ſtill highly valued, not only in times of the greateſt ſimplicity, but among the moſt polite ages of mankind. JOTHAM's fable of the trees is the oldeſt extant, and as beautiful as any which have been made ſince that time. NATHAN's fable of the poor man and his lamb is likewiſe more ancient than any which is extant, except the above-mentioned, and had ſo good an effect, as to convey inſtruction to the ear of a king without offending it, and to bring David to a juſt ſenſe of his guilt and his duty. We find Æſop in a very early period of the Grecian hiſtory; and if we look into the very beginning of the commonwealth of Rome, we ſee a mutiny among the common people appeaſed by a fable of the belly and the limbs. As fables took their birth in the very infancy of learning, they never flouriſhed more than when learning was at its greateſt height. To juſtify this aſſertion, continues Mr. Addiſon, I ſhall put my reader in mind of Horace, the greateſt wit and critic in the Auguſtan age; and Boileau, the moſt correct poet among the moderns: not to mention La Fontaine, who by this way of writing is come more into vogue than any other author of our times.

Spectator, vol. iii. *No.* 183.

Of all the fables in the Engliſh language, thoſe of GAY and MOORE ſeem to have received the greateſt ſhare of public approbation.

Literary men, at different periods, have found their labours recompenſed in a very different manner. The "Paradiſe Loſt" of our immortal Milton was ſold for the trifling ſum of £15; but Shakeſpeare met with more generous treatment from the earl of Southampton, who is ſaid at one time to have made him a preſent of a thouſand pounds.

Fierce to the right tremendous Scylla roars,
Charybdis on the left the flood devours.
PITT's VIRGIL, Book III.

Homer alſo, in the 12th book of the Odyſſey, has given a very glowing deſcription of the dangers attending the paſſage of this ſtreight.

The

The laſt work of our illuſtrious poet DRYDEN was his fables, publiſhed, as it appears, in conſequence of a contract with Tonſon, the bookſeller, by which he obliged himſelf, in conſideration of £300, to finiſh for the preſs 10,000 verſes.

Dr. Johnſon's Life of Dryden.

Add the ſeveral ſums received by Dryden, Milton, and Shakeſpeare together, and divide the total into portions containing 15*s.* 6*d.* ¾. each. *Anſ.* 1689 portions $\frac{7}{747}$ or 14*s.* 11*d.* ¼. remaining.

No. 169. JUDGE JEFFERIES. As the enormities committed by characters eminently wicked, are allowed, by moral writers, to increaſe our veneration for goodneſs, it may, perhaps, ſubſerve the cauſe of virtue and humanity to lay before our juvenile readers a few of the many cruelties exerciſed by that cruel and unprincipled judge, Sir George Jefferies. This profligate magiſtrate was one of the greateſt adviſers and promoters of the oppreſſive and arbitrary meaſures, which took place during the tyrannical reign of James II. and his ſanguinary proceedings, as a judge, will render his name infamous to the lateſt poſterity.

Whenever a priſoner was of a different party, or he could pleaſe the court by condemning him, inſtead of appearing according to the duty of his office, as his counſel, he would ſcarcely allow him to ſpeak for himſelf; but would load him with the groſſeſt and moſt vulgar abuſe, browbeat, inſult, and turn to ridicule the witneſſes that ſpoke in his behalf, and even threaten the jury with fines and impriſonment, if they made the leaſt heſitation about bringing in the priſoner guilty. By his direction, a partial jury was prevailed on to give a verdict againſt the illuſtrious Algernon Sydney; though the charges againſt that renowned patriot were not ſupported either by law or juſtice*. Having long wantoned in cruelty and injuſtice in the capital, he ſet out with a ſavage joy, as to a full harveſt of deſtruction, to try the priſoners concerned in the unfortunate duke of Monmouth's rebellion. Dorcheſter, Exeter, Taunton, and Wells, were the principal ſcenes of his brutal ferocities. The juries were ſo ſtruck with his menaces, that they gave their verdict with precipitation; and many innocent perſons were involved with the guilty. The whole country was ſtrewed with the heads and limbs of thoſe who were executed as traitors. Every village almoſt beheld the dead

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* Hume, vol. viii. p. 198. See alſo the trial of Algernon Sydney.

So violent and rancorous, however, were party prejudices, at the period now alluded to, that ſome time-ſerving juries brought in the moſt ſhameful verdicts. See the caſe of the Rev. Mr. Roſewell, a moſt worthy and upright diſſenting miniſter, againſt whom a verdict was given, which appeared ſo palpably unjuſt, that it was not carried into execution even by

"Murderous rage itſelf, in Jefferies' form."

See the particulars in Hume, vol. viii. p. 201. Mr. Roſewell's trial has been lately republiſhed in the Proteſtant Diſſenters Magazine.

carcaſe

carcaſe of a wretched inhabitant. Even the innocent could not eſcape the hands, no leſs rapacious than cruel, of this execrable chief juſtice. Mr. PRIDEAUX, a gentleman of Devonſhire, being thrown into priſon, and dreading the ſevere and arbitrary ſpirit, which at that time met with no controul, was obliged to buy his liberty of Jefferies at the price of fifteen thouſand pounds; though he could never ſo much as learn the crime of which he was accuſed.

Jefferies, on his return to town, was immediately, for thoſe eminent ſervices, created a *peer*; and was ſoon after inveſted with the dignity of chancellor, by James II. an indubitable proof that his ſanguinary meaſures, as well as thoſe of Colonel KIRK, his infamous coadjutor in the cauſe of tyranny, met with the entire approbation of that bigotted deſpot*. Happily, however, for the human race, the crimes of tyrants, by exciting the abhorrence of mankind, ſerve to promote the cauſe of freedom. The tyrannical conduct of James and his execrable minions occaſioned the REVOLUTION. See queſtion 57.

How many farthings and guineas are in the ſum extorted from Mr. Prideaux? *Anſ.* 14,400,000 farthings; 14,285 $\frac{720}{1008}$ guineas.

No. 170. STATE OF AMERICA IN THE YEAR 1794. Mr. Cooper, in his "Information reſpecting America," juſt publiſhed, enumerates the following, among other advantages to be enjoyed in that country. Few taxes; no animoſities concerning religion or politics; a government *of* and *for* the PEOPLE; no game laws nor tythes; no power in the rich to oppreſs the poor; no beggars in the ſtreets; no melancholy contraſt of vice, and filth, and rags, and wretchedneſs, in the immediate neighbourhood of the moſt wanton extravagance, and the moſt uſeleſs parade; the common people not ſo depraved as in Great-Britain; quarrels uncommon; no military to keep the people in awe; robberies very rare. All theſe are real advantages: but great as they are, they do not weigh with me, continues Mr. Cooper, ſo much as the ſingle conſideration of *the total abſence of anxiety reſpecting the future ſucceſs of a family*. In America, particularly out of the large towns, no man of moderate deſires feels anxious about a family. In the country, where dwells the maſs of the people, every man feels the increaſe of his family to be the increaſe of his riches: and no farmer doubts about the facility of providing for his children as comfortably as they have lived, where land is ſo cheap and ſo fertile, where ſociety is ſo much on an equality, and where the prodigious increaſe of population, and the improving ſtate of every part of the country, furniſh a market for whatever ſuperfluous produce he chooſes to raiſe.

In England, for fear of the expence of a family eſtabliſhment, celibacy is a part of prudence. And the married man doubts whether each child be not a misfortune, and looks upon his offſpring with a

* See on this ſubject Rapin's and Hume's Hiſt. of Eng.

melancholy

melancholy kind of affection, that embitters ſome of the moſt pleaſurable moments of life. There are exceptions to this, but as a general poſition it is perfectly true, whatever may be the ſituation in life of the parents, or the rank to which they belong. Mr. Cooper's labourer, at 12*s.* a week, in England, conſoled himſelf, with tears in his eyes, for the loſs of his eldeſt ſon (who was accidentally drowned) becauſe *he had one leſs to provide for;* and Lord S———, of £25,000 a year, laid down his fox hounds, *becauſe he had a large family.*

Subtract a year's income of the labourer from the peer's annual revenue, and bring the remainder into ſhillings, pence, and farthings. *Anſ.* 499,376 ſhillings; 5,992,512 pence; 23,970,048 farthings.

TROY WEIGHT.

No. 171. REGAL POVERTY. The neceſſities of Henry V. were ſo great in the year 1417, that, to enable him to carry on the war with France, he pawned ſeveral valuable articles; among which were two gold chaſed baſons. Theſe he pledged to a minor canon of St. Paul's for 600 marks. The baſons weighed 28lb. 8oz. how many grains did they contain? *Anſ.* 165,120 grains.

N. B. Hume aſſerts, that Henry not only pawned his jewels, but ſometimes the crown itſelf. Vol. iii. p. 120.

No. 172. GOLD.

Gold's attractive metal, pledge of wealth,
Spur of activity; to good or ill
Powerful incentive.

DYER.

Gold is the moſt valuable of all metals, and all known parts of the earth yield it, though with great difference in point of purity and plenty. South America furniſhes the moſt: but this precious metal is found in conſiderable abundance in Aſia, in the Eaſt-Indies, in Hungary, and in Africa. It is uſually found in mines of conſiderable depth, with an admixture of other mineral and metallic matter, from which it is afterwards ſeparated by a tedious proceſs.

Whate'er is excellent in art proceeds
From labour and endurance.
Gold cannot gold appear until man's toil
Diſcloſes wide the mountain's hidden ribs,
And digs the duſky ore, and breaks and grinds
Its gritty parts, and laves in limpid ſtreams
With oft-repeated toil, and oft in fire
The metal purifies.

DYER.

Gold

Gold is, however, ſometimes met with in the ſand and mud of rivers and torrents, particularly in Guinea, in Africa.

Hot Guinea, too, gives yellow duſt of gold,
Which with her rivers, rolls adown the ſides
Of unknown hills, where fiery-winged winds,
And ſandy deſerts, rous'd by ſudden ſtorms,
All ſearch forbid.

DYER.

We receive about 3,000 ounces of this gold duſt annually. How many pennyweights and grains do they contain? *Anſ.* 60,000 dwts. 1,440,000 grs.

No. 173. SILVER. Silver is the moſt precious of all metals, gold excepted. This valuable and beautiful metal does not appear to have been in uſe prior to the deluge; at leaſt MOSES ſays nothing of it before that time. He ſpeaks of metals of braſs and iron, Gen. iv. 22. It is, nevertheleſs, of great antiquity; for in ABRAHAM'S time it was become common, and traffic was carried on with this metal, Gen. xiii. 2. This venerable perſonage was very rich in ſilver and gold; and he purchaſed a ſepulchre for his wife SARAH for 400 ſhekels of ſilver, Gen. xxiii. 15. This ſilver, ſays Mr. Cruden, was not coined, according to all appearance, but was only in bars or ingots; and in commercial tranſactions it was always weighed. It was, however, converted very early to the purpoſes of domeſtic utility or ornament, as may be rationally inferred from Gen. xlvi. 2. "Put my *ſilver* cup into the ſack's mouth." This metal, as well as gold, was much employed for ſacred uſes.

The ſilver mines of Peru, in South America, have proved the richeſt in the known world. The diſcovery of this amazing treaſure happened by a fortuitous accident, in the year 1545.

See Mr. Payne's Geog. vol. ii. *p.* 751.

The exhalations from theſe mines render the working of them extremely dangerous. They ſtupify the miners; none of them can bear ſo poiſonous an air above a day together. Many *millions* of Indians have periſhed by them; and prodigious numbers continue to be deſtroyed yearly.

Cyclop. art. Silver.

In deep Peruvian mines, there ſlaves
(Wretched requital!) drink with trembling hand,
Pale palſy's baneful cup. With the fatigue
The luſty ſicken, and the feeble die.

DYER.

The horrid expence of human life, at which the gold mines in America are wrought, is related by Captain Cook. No leſs than 40,000 negroes are annually imported for this purpoſe, on the king of Portugal's account only; and in the year 1766, this number of unhappy

unhappy victims fell ſo ſhort, that 20,000 more were drafted from the town of Rio.

Hawkeſworth's Voy. quoted by Dr. Kippis, in his Life of Capt. Cook, p. 23.

The largeſt piece of ſilver ore, of which we have any account, was dug in the mines of Norway. It is at this time preſerved in the king of Denmark's muſeum of curioſities at Copenhagen, is valued at 5,000 crowns, and weighs 560 pounds.

Cyclop.

In one of the moſt ſplendid and magnificent churches of Moſcow is ſuſpended, from the centre of the roof, an enormous chandelier of maſſy ſilver, weighing 2940 pounds. It was made in England.

Mr. Coxe's Trav. vol. i. *p.* 277.

How many grains are contained in the piece of ſilver ore and the chandelier? *Anſ.* 20,160,000 grains.

No. 174. SPLENDID EMBASSY. The embaſſy of Lord Hay, a Scotchman, to the French court, in the reign of James I. A. D. 1616, was one of the moſt magnificent recorded in hiſtory. Among other things, at his public entry into Paris, he had his horſe ſhod with ſilver ſhoes ſlightly tacked on; and when he came oppoſite to houſes or balconies, where eminent perſons, or diſtinguiſhed beauties were, his horſe prancing in humble reverence, flung his ſhoes away, which the ſurrounding mob ſcrambled for. Then one of his train took others out of a velvet bag, and tacked them on; which laſted till he came to the next troop of grandees.

Rapin, vol. viii. *p.* 129.

Suppoſing that in the above uſeleſs parade there ſhould have been 33 ſhoes thrown off, each weighing 1920 grains, how many pounds would the whole have weighed. *Anſ.* 11 pounds.

No. 175. GIANTS. A giant is a perſon of extraordinary bulk and ſtature. It is obſervable, ſays Dr. Johnſon, that the idea of a giant is always aſſociated with pride, brutality, and wickedneſs. Milton's giants had

Fierce faces threat'ning wars,
Giants of mighty bone, and bold empriſe.

The reality of giants, and of nations of giants, has been much controverted among the learned. Travellers and hiſtorians, at different periods, have given various accounts of giants, to which little credit is now given. Dr. Derham obſerves, that though we read of giants before the flood, Gen. vi. 4. and more plainly after it, Numb. xiii. 33. yet it is highly probable, that the ſize of man has always been the ſame from the creation; for as to the Nephilim, Gen. vi. the commentators vary about them, ſome taking them for monſters of impiety, atheiſm, rapine, and tyranny; as to thoſe, Numb. xiii.

which were evidently ſpoken of as men of a gigantic ſize, it is probable, that the fears of the ſpies might add thereto.

Be this as it may, it is manifeſt, ſays the learned editor of the Cyclopædia, that in both theſe places giants are mentioned as rarities and wonders of the age, not of the common ſtature; and ſuch inſtances we have had in all ages. And as for the more credible relations of GOLIATH (whoſe height was ſix cubits and a ſpan, 1 Sam. xvii. 4. which, according to biſhop Cumberland, is ſomewhat above 11 feet Engliſh); of Maximus the emperor (who was 9 feet high); theſe and other ſimilar ancient examples and relations, may be matched, nay outdone, with modern ones.

See Hakewel's Apol. p. 208; *or the Ency. Brit. art. Giant.*

GOLIATH's coat of mail weighed 5000 ſhekels of braſs, and the head of his ſpear 600 ſhekels of iron. To ſupport ſuch ponderous armour, and to wield ſuch a ſpear, required an extraordinary degree of proweſs; but not more than the poets aſcribe to the heroes of antiquity, mentioned in profane hiſtory. Hector, the famous Trojan chief,

> Bore a maſſy ſpear of mighty ſtrength,
> Of full ten cubits was the lance's length.
>
> POPE'S HOMER.

The ſame great poet gives the following deſcription of the celebrated huge ſpear of the Grecian hero, Achilles.

> And now he ſhakes his great paternal ſpear,
> Pond'rous and huge! which not a Greek could rear.
> From Pelion's cloudy top an aſh entire
> Old Chiron fell'd, and ſhap'd it for his ſire;
> A ſpear which ſtern Achilles only wields,
> The death of heroes, and the dread of fields.

Jewiſh doctors greatly differ in eſtimating the weight of the ſhekels ſo often mentioned in the Old Teſtament. One in the late French king's cabinet is ſaid to weigh 268 grains. Biſhop Cumberland, however, aſſerts, that he always found each of the many he had weighed, about half an ounce, or 240 grains. According to this calculation, what was the weight of the gigantic Philiſtine's coat of mail, and the head of his ſpear ſeparately? *Anſ.* 208 lbs. 4 oz. coat of mail; 25 lbs. head of the ſpear.

No. 176. HUMAN HAIR. The hair was always eſteemed, by the ancients, as the principal ornament of beauty. Even VENUS herſelf, ſays Apuleius, if ſhe were deſtitute of hair, though ſurrounded by the graces and loves, would not have charms to pleaſe her own huſband Vulcan. Agreeably to this idea, we find the poets often repreſenting the loſs of this embelliſhment, as fatal to perſonal beauty, in language of ſimilar import with the ſubſequent line:

> "Fallen is thy hair, and beauty is no more."

And

And we hardly ever meet with a deſcription of a fine woman or beautiful man, in the poems of Oſſian, but their hair is mentioned as one of their greateſt beauties.

BOADICEA, the heroic queen of the Iceni, is deſcribed, by Dio, with very long hair, flowing over her ſhoulders, and reaching down below the middle of her back.

The ancient Britons were extremely proud of the length and beauty of their hair; and it was eſteemed a conſiderable honour among the ancient Gauls to have long hair. Hence Cæſar, upon ſubduing this people, made them cut off their hair as a token of ſubmiſſion.

The hair both of Jewiſh and Grecian women engaged a principal ſhare of their attention; and the Roman ladies ſeem to have been no leſs curious with reſpect to theirs. They generally wore it long, and dreſſed in a variety of ways, ornamenting it with gold, ſilver, pearls, &c. On the contrary, the men among the Greeks and Romans, and among the later Jews, wore their hair ſhort, as may be collected from books, medals, ſtatues, &c. This formed a chief diſtinction in dreſs betwixt the ſexes; an obſervation which illuſtrates a paſſage in the apoſtle Paul's epiſtle to the Corinthians, 1 Cor. xi. 14, 15.

We read in Homer of a Trojan who had his hair "inſtarred with gems and gold;" and Madame Dacier informs us, that the Athenians were accuſtomed to put little graſshoppers of gold in their hair. Others, we are told, perfumed theirs with large quantities of fragrant oil, and powdered it with gold-duſt.

Thoſe to whom nature had denied the agreeable ornament now under conſideration, ſupplied the defect by art. The Greeks, and, after their example, the Romans, wore falſe hair; a cuſtom which has at times greatly prevailed in other countries, not excepting our own. Shakeſpeare has ſatirized this faſhion in three of his plays, viz. *Love's Labour-Loſt*; *Timon of Athens*; and *The Merchant of Venice*. The following paſſage is taken from the laſt.

So are thoſe criſped ſnaky golden locks,
Which make ſuch wanton gambols with the wind,
Upon ſuppoſed fairneſs, often known
To be the dowry of a ſecond head,
The ſkull that bred them, in the ſepulchre.

The Greeks, and other nations, tore, cut off, and ſometimes ſhaved their hair, when mourning for their deceaſed relations or particular friends, which they laid upon the corpſe, or threw into the pile, to be conſumed together with the body; and this was deemed a token of violent affection. Thus Achilles and others, in Homer, offer theirs to Patroclus;

"O'er all the corſe their ſcatter'd locks they throw:"

and the little cupids on the death of Adonis, according to Bion,

"Shear their locks, exceſs of grief to ſhow."

Again: "When inſatiate death had raviſhed the youthful and blooming Temas,"

> Her lov'd companions pay the rights of woe,
> All, all, alas! the living can beſtow;
> From their fair heads the graceful curls they ſhear,
> Place on her tomb, and drop the tender tear.
>
> SAPPHO.

This cuſtom is taken notice of in the Scriptures. See Ezek. xxvii. 31.

It is recorded by Herodotus, that Mardonius, the Perſian general, after one of his defeats, cut off his hair, in token of his grief; and Plutarch tells us, that when Alexander's friend Hepheſtion died, that "mighty robber and murderer," to expreſs his ſorrow, ordered the manes of all his horſes and mules to be cut off.

Human hair makes a conſiderable article of commerce, and is ſold from five ſhillings to five pounds an ounce, according to its quality.

We ſhall conclude this article with ſome ſhort ſtrictures on the weight of the handſome ABSALOM'S hair, as recorded 2 Sam. xiv. 25, 26. This we read weighed no leſs than 200 ſhekels; which, if computed by the Jewiſh ſhekel, as calculated by Biſhop Cumberland, mentioned in the preceding queſtion, amount to the enormous ponderoſity of 8 lbs. 4 oz. Troy. But fortunately for this *age of reaſon*, it has been remarked, that when the books of Samuel were reviſed, after the Babyloniſh captivity, ſuch weights were mentioned as were then known to them; and therefore when the hiſtorian mentions this weight of Abſalom's hair, he adds, by way of explanation, that it was after the *king's weight*, *i. e.* after the weight of the king of Babylon, whoſe ſhekel was only *one third* of that of the Jews; by which ſupputation the quantity of hair is ſo reduced, as not to appear altogether incredible: more eſpecially, if it be recollected how much the ſupplementary decorations of thoſe days muſt increaſe its weight.

Many commentators imagine that Abſalom was ſuſpended by his hair, when he was killed by Joab; but others ſuppoſe, that his neck was ſo wedged in between the boughs by the great motion of the mule, that he was not able to diſengage himſelf. For, ſubjoin theſe laſt, he certainly wore a helmet when he went to battle, and hence they conclude, that his hair could not be entangled in the boughs.

Eſtimating the Babyloniſh ſhekel at 80 grains, what was the weight of Abſalom's hair? *Anſ.* 2 lbs. 9 oz. 6 dwts. 16 grs.

No. 177. INGOT. An ingot is a maſs of gold or ſilver melted down, and caſt into a mould, but not coined or wrought. This word is frequently uſed in ſome particular departments of commerce; and is found in many of our beſt authors, as Spenſer, Dryden, Prior, and Shakeſpeare. The laſt great poet compares a rich man to an aſs loaded with *ingots*.

If

If thou art rich, thou'rt poor;
For like an aſs, whoſe back's with *ingots* bound,
Thou bear'ſt thy heavy riches but a journey,
And death unloadeth thee.

It occurs alſo in ſome admirable lines, which, the elegant author obſerves, contain the moral of his poem; a compoſition of great excellence. As we are anxious that the ſentiments exhibited, in the paſſage to which we allude, ſhould "grapple the attention" of our fair readers, we ſhall tranſcribe it for that purpoſe.

VIRTUE'S an *ingot* of Peruvian * gold,
SENSE the bright ore Potoſi's † mines unfold;
But TEMPER'S image muſt their uſe create,
And give theſe precious metals ſterling weight.
Mr HAYLEY'S Triumphs of Temper.

In 31 lbs. 10 oz. 18 dwts. 20 grs. of ſilver, how many ingots, each weighing 7 lbs. 11 oz. 14 dwts. 17 grs.? *Anſ.* 4 ingots.

No. 178. WEDGE. Wedge, in mechanics, is the laſt of the five powers or ſimple machines. It is a very great mechanical power, ſince not only the "knotted oak," but even the "ragged-ſided rock" can be ſplit by it; which it would be impoſſible to effect by the lever, wheel and axle, or pulley; for the force of the blow, or ſtroke, ſhakes the cohering parts, and thereby makes them ſeparate the more eaſily. It is uſually driven by a mallet, or wooden hammer. *Wedge* alſo denotes a maſs of metal.

As ſparkles from the anvil us'd to fly,
When heavy hammers on the *wedge* are ſwaid.
SPENSER.

The "accurſed thing" in the midſt of Iſrael, was the concealment of a *wedge* of gold, part of the ſpoils of Jericho, which the wicked ACHAN had purloined, contrary to expreſs command, and for which theft himſelf and family were afterwards ſtoned and burnt, in the valley of Achor, in the vicinity of Jericho.

See the 7th Chapter of Joſhua.

The fatal wedge of gold, which cauſed the extermination of Achan's race, weighed 50 ſhekels. Now, ſuppoſing a ſhekel to weigh 9 dwts. 3 grs. Engliſh Troy weight ‡, how many grains did it contain? *Anſ.* 10,950 grains.

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* Peru is a large country of South America, famous for its mines of gold and ſilver; and ſome of its medicinal drugs, which are brought into this country, are of excellent uſe, particularly the Jeſuit's bark and Peruvian balſam.

† Potoſi is a mountain of Peru, containing the fineſt ſilver mine in the world; but its treaſure is ſaid to be at preſent almoſt exhauſted, and the mountain itſelf is little better than a ſhell. The rich and populous town of Potoſi is ſituated at the foot of the mountain.

‡ See Scripture Lexicon, p. 335, 2d edit. The exact weight is ſaid to be 9 dwts. 2 grs. $\frac{4}{7}$ Troy.

AVOIR-

AVOIRDUPOIS WEIGHT.

No. 179. Battering Ram, This irreſiſtible machine was a military engine, employed by the ancients to beat down the walls of beſieged places. It was a vaſt piece of timber like the maſt of a ſhip, ſtrengthened at one end with a head of iron, ſomething reſembling that of a ram, whence it obtained its appellation. This was hung by the middle with ropes to another beam, which lay acroſs two poſts; and being thus ſuſpended in equilibrium, it was alternately drawn back and propelled by a century of men with ſuch impetuoſity, that no wall or tower could effectually withſtand its reiterated concuſſions.

It is mentioned by the prophet Ezekiel in two paſſages, chap. iv. 1, 2, and xxi. 22. and Nebuchadnezzar made uſe of it at the ſiege of Jeruſalem.

Plutarch tells us, that Anthony, in the Parthian war, uſed a ram 80 feet in length; and Vitruvius aſſerts, that they were ſometimes 120 feet long.

The battering-ram which was employed by Titus to demoliſh the walls of Jeruſalem (ſee queſtion 36) weighed, according to Joſephus, 100,000 lbs. how many tons, &c. do they contain? *Anſ.* 44 tons, 12 cwt. 3 qrs. 12 lbs.

No. 180. Hops. This uſeful article of commerce was brought into England, according to Anderſon, about the year 1525, from the Netherlands, and immediately uſed in brewing; but the phyſicians of that period repreſenting to the parliament, that hops were unwholeſome, the uſe of them was ſhortly after diſcontinued. They have, however, been many years in general repute in the brewery, for the preſervation of malt liquors; which by the ſuperaddition of this balſamic, aperient, and diuretic bitter, become leſs viſcid, leſs apt to turn ſour, more detergent, and more ſalubrious. They are alſo employed occaſionally in medicine.

There are large plantations of hops in ſeveral Engliſh counties, particularly in Worceſterſhire, Herefordſhire, and Kent.

"——————— On Cantium's* hills,
"The flow'ry hops, whoſe tendrils climbing round
"The tall aſpiring pole bear their light heads
"Aloft, in pendant cluſters; which in the malt's
"Fermenting tuns infus'd, to mellow age
"Preſerve the potent draught."

In 44 tons, 12 cwt. 3 qrs. 12 lbs. of hops, how many pounds? *Anſ.* 100,000 lbs. And how many parcels, each containing as many

* Cantium was the ancient name of Kent. The Cantii were, according to Cæſar, the moſt civilized of all the Britons. That invader landed in their territory Auguſt 26, in the afternoon, 54 years B. C.

pounds

pounds as there are days in the year, are contained in this number of pounds, ſuppoſing 10lbs. more to be added to them? *Anſ.* 274 parcels.

No. 181. COLOSSUS. A Coloſſus is a ſtatue of enormous magnitude. In the temple of Belus, at Babylon, there was a golden ſtatue forty feet high, which weighed 1000 Babyloniſh talents, and was worth three millions and a half of our money.

Dr. Rutherford's Anc. Hiſt. vol. i. *p.* 85.

There was an image erected on the plains of Dura, which, according to Daniel, was ſixty cubits, or about ninety feet in height. But the moſt celebrated Coloſſus of which any account is preſerved, and which is therefore emphatically ſtyled *the coloſſus*, and deemed one of the wonders of the world, was a ſtatue of braſs erected to the SUN, at the mouth of the harbour of Rhodes, a city in an iſland of the ſame name, in the Mediterranean ſea. It was 105 feet high, and proportioned in all its parts; and, according to the general opinion, the ſhips of that period paſſed between its legs.

The Rhodian bully,
The brazen wonder of the days of yore,
That proudly ſtretch'd his legs from ſhore to ſhore,
And ſaw of Greece the loftieſt navy travel
With dread ſubmiſſion underneath his navel.

PETER PINDAR.

CHARES, of Lindus, devoted 12 years to the completion of the work, which occurred 288 years B. C. Sixty-ſix years ſubſequent to its erection, an earthquake overthrew it, and it lay neglected 894 years, that is, till the year of our Lord 672; when Moarvias the 6th caliph, or emperor of the Saracens, having taken Rhodes, ſold the braſs of this famous ſtatue to a Jewiſh merchant, who loaded 900 camels with it. Allowing only 800lbs. weight to every camel (though ſome will carry 12 or 1300 lbs.) how many tons did the coloſſus weigh? *Anſ.* 321 tons, 8 cwt. 2 qrs. 8 lbs.

No. 182. IRON is a hard, fuſible, malleable, and the moſt uſeful of all metals, in the affairs of life. A little reflexion will ſuffice to convince us, how awkward the operations of induſtry muſt be, and what a rude ſcene human life would ſoon exhibit, without the uſe of metals, and of this in particular. Without iron we could attain little perfection in tillage or agriculture; in mechanical arts or trades; in architecture or navigation. Society, ſays Dr. Rutherford, can never make great advances without the uſe of iron. It is the inſtrument of *univerſal induſtry*. At the time of the Trojan war, iron was held in ſuch eſtimation, that in the games which Achilles gave in honour of Patroclus, he propoſed a ball of that metal as a conſiderable prize.

Anc. Hiſt. vol. i. *p.* 39, 373.

It has been remarked, as an inſtance of the Divine Goodneſs to human kind, that thoſe metals which are of moſt frequent and neceſſary

neceſſary uſe to man, as iron, copper, and lead, are the moſt common and plentiful. With reſpect to iron, it is an univerſal metal, being found in all the mineral earths and ſtones that have been examined, in the ores of all other metals, and even in the aſhes of all vegetables and animals. The Swediſh iron has generally been preferred on many accounts, and particularly for the making of ſteel; but the Engliſh iron, properly manufactured, has been found not inferior.

Ruſſia had ſeveral conſiderable iron manufactories in the time of Peter the Great; ſome of theſe he viſited with great aſſiduity, and himſelf learnt the buſineſs of a blackſmith. He ſucceeded ſo well in that trade, that in one day he forged alone, 18 poods of iron, equal to 720 pounds weight, and put his own particular mark on each bar. This was performed at the forges of one Muller at Iſtia, ninety werſts diſtance from Moſcow, to which place he often reſorted. One of theſe bars, authenticated by Peter's mark, is ſtill to be ſeen at Iſtia in the ſame forge. Another, forged alſo with the czar's own hand, is ſhewn in the cabinet of the Academy of Sciences at Peterſburgh; but this laſt was forged at Olonetz, a place ſituated on the ſide of the lake Ladoga, the 12th of October, juſt before his death, which happened in 1725. This bar weighs 120 pounds.

Peter, on the receipt of one of his day's wages from Muller, went directly to a ſhop, and purchaſed a pair of ſhoes, which he took great pleaſure in ſhewing on his feet, ſaying to thoſe who were preſent, "I have earned them well, by the ſweat of my brow, with hammer and anvil."

Peter once paſſed a month at Iſtia; and when he worked at the forges, the bayards, and other noblemen of his ſuite, were obliged to blow the bellows, to ſtir the fire, to carry coals, and perform all the other offices of journeymen blackſmiths*.

Anecdotes of Peter. See alſo ORIGINAL *Anec. of the ſame Monarch, p.* 22, 23, 24, 371, 373.

Add the weight of the iron forged by Peter at Iſtia and Olonetz together, and bring the amount into drams. *Anſ.* 215,040 drams.

No. 183. COPPER. Copper is one of the ſix primitive metals. It is found in the bowels of the earth in ſeveral varieties, as native, &c. Copper is uſed in mixture with other metals. Mixed with tin, in conſiderable quantity, it produces BELL-METAL; with a ſmaller proportion BRONZE; with zinc it forms BRASS, PINCHBECK, &c. Copper, when taken into the human body, acts as a violent emetic, and has been generally accounted poiſonous, though lately received with ſome applauſe into the materia medica as a tonic. Great attention to cleanlineſs is recommended in the uſe of copper utenſils; and it is altogether improper to let any fluid remain in a copper veſſel

* Peter probably thought, and which might be one reaſon of his exultation at receiving his wages as a blackſmith, that emperors, and kings, and lords, were not often ſo uſefully employed.

till

till it be cold; for this metal is much more calcinable in the cold than when heated. Its pernicious effects are prevented by having the veſſels tinned.

There are copper mines in many parts of Europe, &c. The mine in the iſle of Angleſey, on the coaſt of North Wales, produces about 1500 tons of *copper* annually, from between ſix and ſeven thouſand tons of *ore*. And the copper mines of Cornwall produce in the ſame period no leſs than 4000 tons of *copper*. The yearly produce of theſe laſt is calculated at £140,000 ſterling.

Ency. Brit.

At the beautiful and magnificent palace of the duke of Devonſhire at Chatſworth, in Derbyſhire, on the banks of a fine piece of water, is a tree of *copper*, repreſenting a willow, from every leaf of which water is made to iſſue, by the turning of a cock, ſo as to form an artificial ſhower.

Beaut. of Art and Nat. vol. i.

We read in the Scriptures of two veſſels of fine *copper*, precious as gold.

Ezra viii. 27.

Subtract the Angleſey copper from the Corniſh, bring the remainder into drams, and divide them into as many parcels of drams as there are weeks in the year. *Anſ.* 1,433,600,000 drams; 27,569,230 parcels, $\frac{40}{52}$.

No. 184. SPECTATOR. The Tatler, Spectator, and Guardian, were periodical papers, publiſhed by a few eminent writers in the reign of Queen Anne, a period denominated the Auguſtan age of Engliſh literature.

The Tatler and Spectator not only reduced, as Dr. Johnſon juſtly remarks, the unſettled practice of daily intercourſe to propriety and politeneſs, and exhibited the character and manners of the age, but ſuperadded literature and criticiſm, and taught, with great juſtneſs of argument, and dignity of language, the moſt important duties and ſublime truths. All theſe topics were happily varied with elegant fictions and refined allegories, and illuminated with different changes of ſtyle and felicities of invention. Of eſſays thus elegant, thus inſtructive, it is natural to ſuppoſe the approbation general; and it is ſaid by Addiſon, in a ſubſequent work, that they had a perceptible influence upon the converſation of that time, and taught the frolic and the gay to unite merriment with decency; an effect which, adds Johnſon, they can never wholly loſe, while they continue to be among the firſt books by which both ſexes are initiated in the elegancies of knowledge.

The principal writers who undertook the Spectator, which was publiſhed daily, were ADDISON and STEELE. They found, however, in their progreſs, many auxiliaries: many pieces were offered, and many were received. The papers written by Addiſon are marked by one of the letters in the word CLIO, the muſe of hiſtory.

The

The proſe of Addiſon, ſays Johnſon, is the model of the middle ſtyle; pure without ſcrupuloſity, and exact without apparent elaboration. Whoever, continues he, wiſhes to attain an Engliſh ſtyle, familiar but not coarſe, and elegant but not oſtentatious, *muſt give his days and nights to the volumes of* ADDISON.

In him
Humour in holiday and ſightly trim,
Sublimity and attic taſte, combin'd
To poliſh, furniſh, and delight, the mind.

COWPER.

The ninth number of the Spectator gives a humorous account of ſeveral convivial ſocieties. One of theſe was a club of fat men, conſiſting of 15 perſons, weighing together 3 tons. What was the average weight of each individual, in pounds? *Anſ.* 448 pounds.

No. 185. CORPULENCY. Corpulency is the ſtate of being too much loaded with fleſh or fat; and, according to the ſons of Eſculapius, is the occaſion of various diſeaſes, particularly the apoplexy.

The moſt extraordinary inſtance of corpulency ever known, at leaſt in late times, and in this country, was that of Mr. Bright, of Malden, in Eſſex, who died in 1750, in the 29th year of his age. Seven perſons of the common ſize were with eaſe encloſed in his waiſtcoat; and a ſtocking, which when ſent home to him was found too little, was large enough to hold a child of four years old. A pattern of this ſtocking is exhibited at Mr. Parkinſon's muſeum, Black-Friars-Bridge.

Mr. Bright weighed 153,600 drams; what was his weight in hundreds, &c.? *Anſ.* 5 cwt. 1 qr. 12 lbs.

No. 186. BELL. This is a well known machine, ranked by muſicians among the muſical inſtruments of percuſſion.

Bells are obſerved to be heard farther placed on plains than on hills; and ſtill farther in valleys than in plains: the reaſon of which will not be difficult to aſſign, if it be conſidered, that the higher the ſonorous body is, the rarer is its medium; conſequently, the leſs impulſe it receives, and the leſs proper vehicle it is to convey it to a diſtance.

The invention of bells is by ſome attributed to the Egyptians. Be this as it may, it is certain, that they were always uſed to announce the feſtivals in honour of Oſiris. Among the Hebrews, the high prieſts in grand ceremonies wore a kind of tunick, ornamented with ſmall golden bells; and the prophet Zachariah, xiv. 20. ſpeaks of bells hung to war horſes. At Athens the prieſts of Proſerpine and Cybele uſed them during their ſacrifices. Bells were known alſo among the Perſians, the Greeks, and the Romans.

Pope Sabinian, and Paulinus, biſhop of Nola, a city of Campania in Italy, introduced bells into the church, about A. D. 400,

to

to ſummon the people to divine worſhip, and to diſtinguiſh the canonical hours; but it does not appear, that large bells were uſed before the ſixth century. In Britain they were applied to church purpoſes before the concluſion of the ſeventh century; being introduced about the time when pariſh-churches were firſt erected among us. Thoſe of France and England appear to have been furniſhed with ſeveral bells. In the time of Clothaire II. king of France, and in the year 610, the army of that prince was frightened from the ſiege of the city of Sens, by ringing the bells of St. Stephen's church. Bells were baptized about the beginning of the following century.

The practice of ringing bells in change, or regular peals, is ſaid to be peculiar to England; whence Britain has been termed the *ringing iſland*. The cuſtom ſeems to have commenced in the times of the Saxons, and was common before the conqueſt. It is with us reduced to a ſcience, and peals have been compoſed which bear the name of the inventors.

The muſic of bells is altogether melody; but the pleaſure ariſing from it conſiſts in the variety of interchanges, and the various ſucceſſion and general predominance of the conſonances in the ſounds produced.

There is in ſouls a ſympathy with ſounds;
And, as the mind is pitch'd, the ear is pleas'd
With melting airs, or martial, briſk, or grave:
Some chord in uniſon with what we hear
Is touch'd within us, and the heart replies.
How ſoft the muſic of the village bells,
Falling at intervals upon the ear
In cadence ſweet, now dying all away,
Now pealing loud again, and louder ſtill,
Clear and ſonorous as the gale comes on!

COWPER.

There are ſeveral bells of great magnitude and ponderoſity in England; particularly Tom of Lincoln, weighing 11,200 pounds; Peter of Exeter, weighing 12,500 pounds; and "Mighty Tom" of Chriſt-Church, Oxford, weighing 17,000 pounds. George of Amboiſe*, a bell in the ſteeple of the great church of Rouen, in the department of Lower Seine, France, weighs 36,000 pounds. But the largeſt bell in the known world is that of Moſcow, the ancient capital of the Ruſſian empire. Its height is 19 feet, its circumference at the bottom 21 yards 11 inches, its greateſt thickneſs 23 inches, and its weight 432,000 pounds. The beam to which this vaſt machine was faſtened being accidentally burnt, the bell fell down a few years ago.

Coxe's Trav. vol. i. *p.* 261.

How many tons, &c. does the bell of Moſcow weigh? *Anſ.* 192 tons, 17 cwt. 0 qrs. 16 lbs.

* George d'Amboiſe was archbiſhop of Rouen in the fifteenth century.

No. 187. Ox. This is a well known tame quadruped. There are, however, four ſorts of this animal naturally wild.

"The ſtrong laborious ox, of honeſt front," is the only horned animal in theſe iſlands, that will apply his ſtrength to the ſervice of mankind. And it is now generally allowed, that, in the draught, oxen are, in many caſes, more profitable than horſes.

The plain ox,
An harmleſs, honeſt, guileleſs animal,
Whoſe toil, patient and ever ready,
Clothes the land with all the pomp of harveſt.

THOMSON.

In Bombay, and in many other parts of the Eaſt-Indies, oxen are generally uſed inſtead of horſes, not only for drawing carriages, but for riding; and, however ridiculous ſuch a practice may ſeem to us, it appears, that they are not in this reſpect inferior to ordinary horſes, being capable of going at the rate of ſeven or eight miles an hour.

Ency. Brit. art. Bombay.

In Surat there is a ſmall kind of ox, not bigger than a great dog, with a fierce look, which is uſed for drawing children in a ſmall cart.

Cyclop. art. Bos.

Apis, a god of the Egyptians, was worſhipped under the form of an ox. Some imagine, that Iſis and Oſiris are the deities honoured under this name, becauſe during their reign they taught the Egyptians agriculture. Theſe people believed, that the ſoul of Oſiris was really departed into the ox, where it wiſhed to dwell, becauſe that animal had been of the moſt eſſential ſervice in the cultivation of the ground.

It is recorded, by ſeveral ancient writers, that MILO, the celebrated athlete of Crotona in Italy, could carry an ox the ſpace of forty yards; kill it with one blow of his fiſt; and eat it up in one day.

DIDO, queen of Carthage, we are told, when ſhe landed in Africa, bought as much land as ſhe could compaſs with an ox's hide, which ſhe artfully cut into ſmall thongs, and thus cheated the owner of ſo much ground as ſerved her to build Carthage upon. To this circumſtance the following lines in Hudibras allude.

The mighty Tyrian queen, that gain'd
With ſubtile ſhreds a tract of land.

A ſimilar artifice is ſaid to have been practiſed by the crafty Hollanders upon the inhabitants of Formoſa, an iſland near China, in Aſia.

See Mr. Payne's Geog. vol. i. p. 64.

There is ſcarcely any part of the ox but what is either uſed in manufactures, commerce, or medicine. The ſkin has been of great uſe in all ages. The ancient Britons built their boats with oſiers, and covered them with the hides of bulls, which ſerved them for ſhort coaſting voyages.

The bending willow into barks they twine;
Then line the work with ſpoils of ſlaughter'd kine.
Such are the floats Venetian fiſhers know,
When in dull marſhes ſtands the ſettling Po;
On ſuch to neighb'ring Gaul, allur'd by gain,
The bolder Britons croſs the ſwelling main.

ROWE'S LUCAN.

At preſent the hide, when tanned and curried, ſerves for boots, ſhoes, and numberleſs conveniencies of life. Of the horns are made combs, boxes, handles for knives, and drinking veſſels; and when ſoftened by water, obeying the manufacturer's hands, they form pellucid laminæ for the ſides of lanterns. This laſt conveniency we owe to the eminently great and good King ALFRED. Horns are alſo employed in medicine as alexipharmics. The ox's bones are uſed by mechanics where ivory is too expenſive; by which the common people are ſerved with many neat conveniencies at an eaſy rate. The blood is the baſis of that fine colour the Pruſſian blue. For numerous other particulars we refer our young readers to the Ency. Brit. art. Bos.

The famous Lincolnſhire ox, which was exhibited ſome time ago in London, is ſaid to have weighed 33 cwt. and in January 1793, ſeveral periodical publications mentioned an ox ſold by Mr. Child, of Abingdon, which weighed, when alive, 1 ton, 5 cwt. 2 qrs. 14 lb. Add the weight of theſe enormous animals together, and bring the total into drams. *Anſ.* 1,680,896 drams.

APOTHECARIES WEIGHT.

No. 188. In 27 lbs. 7 ozs. 2 drs. 1 ſcr. 2 grs. how many grains? *Anſ.* 159,022 grains.

No. 189. In 159,022 grains, how many pounds, ounces, drams, ſcruples, and grains? *Anſ.* 27 lbs. 7 ozs. 2 drs. 1 ſcr. 2 grs.

N. B. The company of apothecaries were incorporated by a charter from James I. procured at the ſolicitation of Dr. Mayerne and Dr. Atkins. Till that time they only made a part of the grocers company; plums, ſugar, ſpice, Venice treacle, mithridate, &c. being ſold in the ſame ſhop, and by the ſame perſon. The reaſon of ſeparating them was, that medicines might be better prepared, and in oppoſition to divers perſons who impoſed unwholeſome remedies on the people. To his majeſty belong two apothecaries: the ſalary to the firſt £320, to the ſecond £275. To the houſehold belong alſo two. The firſt mention of an apothecary attending the king's perſon in England, is about 1344, in the reign of Edward III. who ſettled a penſion of 3*d.* per day for life, on Courſus de Gangeland, for having taken care of him during his illneſs in Scotland.

In

In a parliament called by Henry VIII. A. D. 1514, it was enacted, that ſurgeons ſhould be diſcharged of conſtableſhip, ward-duties, bearing of arms, and of inqueſts and juries; by reaſon of the continual ſervice and attendance they give day and night, and at all hours, to their patients*: and by an act paſſed in the reign of queen Anne, apothecaries are exempted from ſerving ward and pariſh offices, or on juries.

There are but two apothecaries allowed in Copenhagen, the capital of Denmark, and only one in every other conſiderable town of that kingdom. In Ruſſia, we are told, there are no apothecaries at all; and but few phyſicians.

Travellers ſpeak of a famous apothecary's ſhop at Dreſden, furniſhed with 4,000 ſilver pots, all filled with the choiceſt drugs. And the diſpenſary, or apothecary's office at Loretto, is ſaid to contain upwards of 340 large gallipots of beautiful Faenza porcelain, exquiſitely painted with boys, bacchanals, &c. by the famous Raphael. The Chineſe diſpenſe medicines gratis to all the poor who ſtand in need of any relief from phyſic.

The College of Physicians was inſtituted in the year 1518, in the reign of Henry VIII. whoſe charter for that purpoſe bears date October 23d. By the appointment in this corporation, or college, are included the phyſicians in London, and ſeven miles round that city.

Rapin, vol. vi. *p.* 147.

By other ſtatutes in 1540, in the reign of Henry VIII. it was enacted, that phyſicians in London ſhould be diſcharged from watch and ward, and not ſerve the office of conſtable, or any other: alſo that the preſident, and four fellows of the college, ſhall ſearch and examine the wares and drugs of the apothecaries; and that they may practiſe ſurgery.

CLOTH MEASURE.

The word cloth, taken abſolutely, commonly means a texture of wool; but it is alſo uſed to denote any thing woven for dreſs or covering, whether of animal or vegetable ſubſtance. The art of weaving woollen cloth was brought into England from Flanders, by John Kempe, in the year 1331.

Fine linen is made from a fibrous plant called flax; and coarſe linen from a plant of the ſame kind denominated hemp. Theſe, however, are not the only materials that ſupply it: for a cloth is ſold at Leipſic, ſaid to be made of nettles; and, in Sweden, they fabricate a coarſe ſort from hop-binds, or hop-tops. Linen is ſaid to have been firſt manufactured in England by Flemiſh weavers, under the protection of Henry III. in 1253; antecedent to which æra, woollen ſhirts were the only ones worn in this country. In 1634, lord-deputy Wentworth

* Rapin, vol. vi. p. 95.

eſtabliſhed

eſtabliſhed the linen manufacture in Ireland, where it has been brought to a great degree of perfection. The ſame commodity is the ſtaple of Scotland; and the Ruſſians, Germans, Swiſs, Flemings, Hollanders, and French, are the principal European nations who traffic in it.

The uſe of linen is of very remote antiquity. Upon Joſeph's exaltation to the viceroyſhip of Egypt, veſtures of fine linen are marked as the principal ornaments of his ſtate attire*. Indeed, from the frequent mention made of the Egyptian linen by the ancients, many learned men have been induced to aſſert, that it was of far ſuperior fineneſs and value to any of modern manufacture. Late inveſtigation has, however, evinced the fallacy of this aſſumption. For, when Dr. Hadley, in conjunction with other intelligent perſons, examined an Egyptian mummy, of which an account is given in the Philoſophical Tranſactions for 1764, they found the upper filletting ſcarcely equal in fineneſs to what is ſold at preſent for 2*s.* 4*d.* a yard, under the name of long lawn; and the inner filletting, in general, ſtill coarſer. Now, there is every reaſon to ſuppoſe the linen, in which the mummies were wrapped, to have been the fineſt at that time in Egypt; becauſe embalming was only practiſed towards the remains of perſons of high diſtinction, at whoſe interment no charges were ſpared. Another ingenious writer† has alſo amply refuted the ſame notion, by citations from authors and travellers of acknowledged credit, who had profeſſedly diſcuſſed, or occaſionally adverted to, the ſubject under conſideration. On the authority, therefore, of theſe accounts, and the force of the inferences deduced from them, we are warranted in affirming, that the Egyptian linen was ſolely indebted for its celebrity to the comparative inferiority of every other, at the ſame period. That, however, other nations were by no means ſtrangers to the ſame manufacture, is with great probability inferred, by the valuable writer juſt alluded to, from the ſtory of Rahab, Joſh. ii. 6. as well as from the portrait of a virtuous Jewiſh matron, Prov. xxxi. 13, 24.

No. 190. Scotch Rebellions. Soon after the acceſſion of George I. a rebellion was raiſed in Scotland in favour of the ſon of James II. known in our hiſtory by the title of the *Pretender*, who landed at Peterhead in Aberdeenſhire, Dec. 26, 1715. Being weakly projected, and raſhly and injudiciouſly conducted, this inſurrection was ſoon ſuppreſſed, and the priſons of London were crowded with the daring adventurer's deluded adherents. The Pretender himſelf eſcaped from Montroſe in Angus or Forfarſhire, on board a French ſhip lying in the harbour, and arrived in five days at Gravelines, a ſea-port between Calais and Dunkirk, ſituated in late French Flanders, now in the department of the North. The earl of Derwentwater and lord Kenmuir were decapitated on Tower-Hill; and ſeveral of the rebels were executed in other places.

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* Gen. xli. 42.

† Harmer. See his excellent Obſervations on divers Paſſages of Scripture, vol. ii. p. 349, et ſeq.

The

The national tranquillity was again disturbed in the reign of George II. A. D. 1745, by another adventurer. This was the son of the old Pretender, and commonly called the *Young Pretender*. This aspiring claimant landed in Scotland, and the boldness of the enterprize astonished all Europe. After gaining some trifling advantages over the king's forces in that country, he made an irruption into England, and, for a short time, greatly alarmed the pusillanimous part of the nation. Retreating northwards again, he was at length totally defeated by the duke of Cumberland, in the battle of CULLODEN, near INVERNESS in Scotland, A. D. 1746. Immediately after the engagement, the Pretender sought safety by flight. He continued wandering among the frightful wilds of Scotland, for nearly six months; and as thirty thousand pounds were offered for taking him, he was constantly pursued by the troops of the conqueror, and often hemmed round by his pursuers, but still rescued by some lucky accident from the impending danger, and at length he escaped to Morlaix in France.

In the mean time, the scaffolds and gibbets were preparing for his adherents, many of whom were hanged in the neighbourhood of London and other parts. The earl of Kilmarnock, and the lords Balmerino and Lovat were beheaded on Tower-Hill. Thus ended the last effort of the STUARTS for re-ascending the throne.

The inhabitants of LONDON distinguished themselves, by their zeal for the government, in the course of this rebellion. Upwards of £18,000 were subscribed at Guildhall, for the relief of the soldiers employed in the king's service. A great variety of clothing was in consequence conveyed to the army; and, among other articles, 20,000 shirts were sent.

Supposing each shirt to contain $3\frac{1}{2}$ yards, what number of nails did the whole contain? *Ans.* 1,120,000 nails.

No. 191. WEAVING INGENUITY. Mr. Pennant informs us, that there was a weaver residing at Wick, in Caithness, Scotland, who could weave a shirt, with buttons and holes entire, without any seam, or the least use of the needle. The value of one of these garments was £5 sterling. One of these shirts is shewn at Mr. Parkinson's Museum, Black-Friars-Bridge.

In 500 such shirts, each containing 3 yards and $\frac{1}{4}$, how many ells English? *Ans.* 1,500 ells.

No. 192. ASBESTOS. The asbestos is a sort of fossil stone, which may be split into threads and filaments, and wrought into cloth.

> Ingenious trade, to clothe the naked world
> Her soft materials not from sheep alone,
> From various animals, reeds, trees, and *stones*,
> Collects sagacious.
>
> DYER.

Cloth made of the extraordinary fossil production now under consideration, is endued with the wonderful property of remaining unconsumed in the fire.

The

The ſoft aſbeſtos form'd SERENA'S veſt
Whoſe wond'rous folds, in fierceſt flames entire,
Mock the vain ravage of conſuming fire.
Mr. HAYLEY'S Triumphs of Temper.

Suppoſing Serena's veſt to have contained 12¾ yards; how many ells Flemiſh would 365 ſuch garments contain? *Anſ.* 6,205 ells Flemiſh.

N. B. The aſbeſtos is found in the iſle of Angleſey, and in Aberdeenſhire, Scotland, &c.

No. 193. HUCKABACK. Huckaback is a kind of linen on which the figures are raiſed. It is much uſed for table-cloths and napkins.

Clean hag-abag I'll ſpread upon his board,
And ſerve him with the beſt we can afford.
GENTLE SHEPHERD.

Darlington, in the county of Durham, has long been noted for the manufacture of huckabacks. This linen is made from Engliſh flax, brought from the ſouth of Yorkſhire, and partly from foreign flax, imported at Stockton. Moſt of it goes to London by ſea.
Dr. Aikin's England delineated.

In 3 dozen of napkins, each containing 20 nails, and 1 dozen table-cloths, each containing 38 nails, how many yards? *Anſ.* 73 yards 2 quarters.

No. 194. CAMBRICK. Cambrick is a ſpecies of linen, made of flax, very fine and white; the name of which was originally derived from the city of Cambray*, where cambricks were firſt manufactured. The cambricks allowed to be worn in this country are fabricated in Scotland and Ireland. Cambrick is much uſed for ruffles and handkerchiefs.

In 365 yards of cambrick how many handkerchiefs of ¾ of a yard; 1 yard; 1 yard and ¼; and 1 yard and ½ each; and of each an equal number? *Anſ.* 81 of each, $\frac{2}{15}$.

No. 195. IRISH LINEN. A colony of Scots, in the reign of James I. and other Preſbyterians, who fled from perſecution in that country in the ſucceeding inglorious reigns, planted themſelves in the north-eaſt part of Ireland, and eſtabliſhed that great ſtaple of wealth, the linen manufactory, which has been ſince not only brought to the utmoſt degree of perfection in that particular diſtrict, but has been extended over great part of the kingdom, and which, including the fabrication of thread, has given employment to an immenſe number of

* Cambray is one of the moſt opulent and commercial cities in the Netherlands. It is ſeated on the river Scheld. The celebrated FENELON, author of Telemachus, &c. was archbiſhop of this place.

perſons,

perſons, and brought vaſt ſums into the nation; it being chiefly by the exportation of this article, that the Iriſh are enabled to pay for the great annual importation of others from England.

In the year 1794, there were 43,259,764 yards of linen exported from Ireland; how many parcels, each containing 20 pieces, each 25 yards and $\frac{1}{2}$, does that number of yards contain? *Anſ.* 84,823 parcels, 34 yards.

No. 196. SCOTCH LINEN. The linen manufacture of Scotland, notwithſtanding a ſtrong rivalſhip from Ireland, is in a very flouriſhing ſtate. Their exports in linen, cambricks, oſnaburgs, dornics, damaſks, diapers, &c. are ſaid to have amounted, ſome years ago, to upwards of £400,000 ſterling annually, excluſive of their home conſumption; and this trade is ſuppoſed to have increaſed conſiderably of late.

In $75\frac{3}{4}$ yards of Scotch cambrick; $54\frac{1}{4}$ yards of dornie; and $124\frac{1}{2}$ yards of damaſk, how many nails? *Anſ.* 4,072 nails.

No. 197. OSNABURGS. Oſnaburgs are a kind of coarſe linen, firſt made at Oſnaburg, in Weſtphalia, Germany, of which there are two kinds; the one white, and the other brown. The manufacture of the white is well underſtood in our own country: but the method practiſed in Germany of making the brown ſort, and of giving it its peculiar colour, is not known. Some have ſuppoſed, that it depends on the manner of bleaching the flax, and others on that of bleaching the yarn after it is ſpun.

Dundee is a large and flouriſhing town of Angus, or Forfarſhire, in Scotland; ſeated on the north ſide of the eſtuary of the Tay. From this town vaſt quantities of oſnaburgs are annually exported: in one year four millions of yards have been ſtamped at the public office.

Scotland delineated, p. 156, *&c.*

How many parcels, each containing 10 pieces, each 26 yards and $\frac{1}{2}$, are in the quantity of oſnaburgs above mentioned? *Anſ.* 15,094 parcels, 90 yards.

No. 198. DIAPER. Diaper is a ſort of linen cloth woven in flowers, and other figures; by ſome reckoned the fineſt ſpecies of figured linen after damaſk. The word diaper is uſed by Shakeſpeare to denote a napkin or towel..

Dunfermline in Fifeſhire, Scotland, has a good trade in diapers.

Scotland delineated, p. 191.

In 50 pieces of diaper, each conſiſting of 24 yards, how many parcels ſeverally containing 5 ells Engliſh; 6 ells French; and 7 ells Flemiſh; and of each an equal number? *Anſ.* 58 parcels $\frac{44}{84}$.

No. 199. DAMASK. Damaſk linen is a kind of wrought linen made in Flanders, ſo called, becauſe its large flowers reſemble thoſe of

of damaſks, which were a ſort of ſilk ſtuffs, having ſome parts raiſed above the ground, repreſenting flowers or other figures. They obtained this appellation from their having been invented at Damaſcus in Syria, a place alſo noted for its ſteel, its roſes, and its damaſcene plums, or damſons.

Damaſk linen is chiefly uſed for tables: a table-cloth, and a dozen of napkins, are called a *damaſk-ſervice*.

In a dozen damaſk-ſervices, the table cloths containing 5 yards and $\frac{3}{4}$ each; and the napkins 1 yard and $\frac{1}{4}$ each, how many quarters and nails? *Anſ.* 996 quarters; 3,984 nails.

No. 200. HOLLAND. Holland, in linen-drapery, is a fine, white, even, cloſe kind of linen cloth, chiefly uſed for ſhirts, ſheets, &c.

> Some for the pride of Turkiſh courts deſign'd
> For folded turbants fineſt holland bear.
>
> DRYDEN.

It is principally wrought in the provinces of Holland, Frieſland, and other parts of the United-Provinces; whence the appellation. The chief mart or ſtaple of this cloth is at Haerlem, in Holland, whither it is ſent from moſt other places, as ſoon as woven, there to be whitened in the enſuing ſpring.

In Shakeſpeare, the hoſteſs tells Falſtaff, that the ſhirts ſhe bought him were holland, at eight ſhillings a yard; a high price at this day, even ſuppoſing, what is not probable, that the beſt holland at that time was equal in goodneſs to the beſt that can now be purchaſed. Hence Hume concludes, that the finer manufactures, by the progreſs of arts and induſtry, have rather diminiſhed in price, notwithſtanding the great increaſe of money.

Hiſt. Eng. vol. vi. *p.* 176.

How many dozen of ſhirts, each ſhirt containing 3 yards and $\frac{3}{4}$, can be made from 16 pieces of holland, each 26 yards and $\frac{3}{4}$? *Anſ.* 9 dozen, $\frac{1}{2}$, $\frac{2}{13}$.

No. 201. FEMALE PATRIOTISM. The generous exertions of the American daughters of liberty in Philadelphia, and the neighbourhood, to aſſiſt the continental ſoldiers, in the war with England, are mentioned with deſerved approbation by Dr. Gordon. Deſirous of ſharing with the gentlemen of America in the ſplendors of patriotiſm, and aſpiring to the honour of giving the army ſome public mark of the eſteem they entertained of their virtue, they formed a female aſſociation, and collected ſubſcriptions for this purpoſe. Their donations, ſays the hiſtorian, purchaſed a ſufficient quantity of cloth, and their hands made the ſame into two thouſand one hundred and ſeven ſhirts, which were delivered to the perſon appointed to receive them by General WASHINGTON*, the patriotic champion who ſo nobly defended

* Dr. Gordon's Hiſt. Amer. Rev. vol. iii. p. 376, 496.

the ſtandard of liberty in the New World, and in the iſſue of the ſtruggle "taught a leſſon uſeful alike to thoſe who inflict, and to thoſe who feel oppreſſion."

Suppoſing each ſhirt contained 3 yards and $\frac{1}{4}$, how many pieces, each conſiſting of 25 yards and $\frac{1}{2}$, muſt the American ladies have purchaſed, to have accompliſhed their patriotic purpoſe? *Anſ.* 268 pieces, 13 yards $\frac{1}{4}$.

No. 202. DISTRESS OCCASIONED BY WAR. Spain was ſo exhauſted by continued wars in Italy and Flanders, and by emigrations to America; wanting at the ſame time every encouragement to induſtry at home; that wretchedneſs at length ſo univerſally prevailed, that in the year 1660 it was computed there were 3,000,000 of perſons who wore no ſhirts, becauſe they could not afford to purchaſe linen.

Mr. Townſend's Journey, vol. ii. *p.* 165.

May we not, on occaſions like this, exclaim with Homer,

"Curs'd is the man, and void of law and right,
Unworthy property, unworthy light,
Unfit for public rule, or private care,
That wretch, that monſter, who delights in war;
Whoſe luſt is murder, and whoſe horrid joy
To tear his country, and his kind deſtroy."

Allowing $3\frac{1}{2}$ yards to each ſhirt, how many yards would have furniſhed a ſhirt apiece for the perſons mentioned above? *Anſ.* 10,500,000 yards.

LONG MEASURE.

No. 203. VOLCANO.

The firſt Almighty Cauſe,
Acts not by partial, but by gen'ral laws.

POPE.

That partial evil is univerſal good, is a propoſition which has been repeatedly illuſtrated by the beſt moral writers. The ſun, it has been remarked, that burns up the mountains, fructifies the vales; the deluge that ruſhes down the broken rocks with dreadful impetuoſity, is ſeparated into purling brooks; the rage of the hurricane purifies the air; and *the dread volcano miniſters to good: its ſmothered flames might undermine the world.*

Volcano is a name given to burning mountains, or to vents for ſubterraneous fires that emit or eject flames, aſhes, cinders, ſtones, liquid ſulphur, and other ſubſtances.

The

The principal apertures of this kind in Europe, are ETNA in Sicily, VESUVIUS in Naples, and HECLA in Iceland.

So late as the year 1783, a volcanic eruption in Iceland, ſurpaſſed any thing recorded in hiſtory. The lava ſpouted up in three places, to the height of two miles perpendicular, and continued thus for two months; during which time it covered a tract of 3,600 ſquare miles of ground, in ſome places more than 100 feet deep.

Chronological Tab. Ency. Brit.

The eruptions and flame from mount Etna are ſeen, by thoſe who ſail in the Mediterranean ſea, at the diſtance of 168 Engliſh miles; and in 1536 this volcano raged with ſuch peculiar violence, that it ſhook all Sicily, and diſgorged a great quantity of aſhes, which were not only diſperſed all over the iſland, but alſo carried beyond ſea to Italy, ſo that ſeveral ſhips, then on their paſſage to Venice, at 200 leagues diſtance, ſuffered damage. How many yards are in that ſpace? *Anſ.* 1,056,000.

N. B. The eruption of Etna, in 1669, deſtroyed 27,000 human habitations, and 17,000 perſons periſhed by it in Catania.

No. 204. VESUVIUS. In the year 79 occurred the firſt eruption of Veſuvius on record. It happened in the time of Veſpaſian, when Pliny the elder, a celebrated natural philoſopher, having been prompted by curioſity to obſerve its effects, was ſuffocated with the ſulphureous ſmoke. Herculaneum was alſo overwhelmed at the ſame time; and, like Pompeii and other cities, was thought to have been utterly deſtroyed, till the beginning of the preſent century, when it was diſcovered, and many of the houſes were found perfectly furniſhed, with the furniture in good preſervation. It is ſituated 8 miles from Naples. How many inches and barley-corns are in that ſpace? *Anſ.* 506,880 inches, 1,520,640 barley-corns.

No. 205. SILK-MILL. At Derby there is a wonderful machine, the only one of its kind in England. It is an engine for making organzine or thrown ſilk, by which invention one perſon can twiſt as much ſilk as could be performed by fifty in the uſual way, and that in a truer and better manner. The model of this celebrated piece of mechaniſm is ſaid to have been clandeſtinely taken by the brother of the late Sir Thomas Lombe, merchant of London, from the original in the king of Sardinia's dominions, about the year 1714. The two brothers acting in concert employed an excellent mechanic, named Soracle, and completed the whole machinery, which has greatly encouraged the ſilk manufacture of this kingdom, and ſaved a great deal of money to the nation, formerly paid to the Piedmonteſe for organzine ſilk. This grand machine contains 26,586 wheels, and 97,746 movements, and one water-wheel communicates motion to all the reſt of the wheels and movements, of which any one may be ſtopped ſeparately and independently of the reſt. One fire engine conveys air to every part of the machine; and one regulator governs the whole; 73,728 yards of ſilk are wound every time the water-wheel goes round,

which is three times in a minute; ſo that 318,504,960 yards may be wound in 24 hours: how many miles and leagues are contained in this quantity? *Anſ.* 180,968 miles, 1,280 yards; 60,322 leagues, 2 miles.

N. B. 1760 yards make a mile.

No. 206. HANNIBAL'S MARCH. This renowned Carthaginian general ſet out from New Carthage, now called Carthagena, in Murcia, Spain, to invade Italy. Hannibal, in this march, croſſed the Pyrenean hills; the river Rhone, near Avignon, in France; and the Alps. In traverſing thoſe high mountains he encountered extreme fatigue, and loſt a conſiderable part of his army. This invaſion was productive of innumerable diſaſters, and almoſt total ruin, to the Roman ſtate. He defeated their numerous forces (always with prodigious ſlaughter) near the river Ticinus; near the Trebia; near the lake Thraſymenus; and, finally, near Cannæ, the moſt memorable of his victories, and moſt fatal to his enemies. Being, at length, recalled to defend his own country, he was there defeated by Scipio, at the battle of Zama. Soon after this overthrow, he ſought an aſylum with Pruſſias, king of Bythinia, who, deſirous to gratify the Romans, deſigned to betray him into their hands; to avoid which diſgrace, Hannibal poiſoned himſelf, in the 70th year of his age; enjoying at his death the reputation of having been one of the greateſt commanders the world had produced; a teſtimony confirmed to our time by the unanimous voice of poſterity.

Hannibal undertook this arduous expedition about 217 years B. C. and the diſtance from New Carthage to the plains of Italy is computed at a thouſand miles. How many inches are in the ſpace mentioned in Hannibal's march. *Anſ.* 63,360,000.

No. 207. BATTLE of CUNAXA, or CYNAXA. The battle of Cunaxa, a place ſituated about 25 leagues N. W. of Babylon, is highly diſtinguiſhed in ancient hiſtory. It was fought about 401 years B. C. between young Cyrus and his brother Artaxerxes. The latter having ſucceeded to the Perſian throne on the death of Darius Nothus his father, the former, aided by ſome Grecian troops, attempting to dethrone him, was ſlain in this engagement; which, however, owes almoſt the whole of its celebrity to the retreat of the 10,000 Greeks, that immediately ſucceeded it, and which is one of the moſt memorable events in hiſtory. Thoſe able and intrepid warriors, hopeleſs of ſuccour, bereft of their principal commanders, deſtitute of allies, proviſions, money, horſes, and archers, with, in fine, no reſource but the prudence and valour which love of LIBERTY, and impatience to be reſtored to their native country, inſpired, traverſed five or ſix hundred leagues interſected by vaſt rivers, and obſtructed by innumerable defiles. Yet they proceeded through various fierce and barbarous nations, ſurmounted all the obſtacles and dangers that aroſe at every ſtep, and, in a word, accompliſhed their very arduous enterprize, after repeated triumphs over toils, neceſſities, fraud, and force. This

retreat

retreat is eſteemed the boldeſt and beſt-conducted exploit on record. It is minutely narrated by the admired hiſtorian Xenophon, whoſe melody of periods, and elegance of diction, obtained for him the appellation of *Attic Bee*. He was on this occaſion not only a ſpectator of the facts he relates, but the prime mover and animating ſpirit of the whole glorious expedition.

This memorable retreat is delineated by Thomſon in the following glowing and energetic lines:

——— Thro' the continent ten thouſand Greeks
Urg'd a retreat, whoſe glory not the prime
Of victories can reach. Deſerts, in vain,
Oppos'd their courſe, and hoſtile lands, unknown,
And deep rapacious floods, dire-bank'd with death,
And mountains, in whoſe jaws deſtruction grinn'd,
Hunger and toil, Armenian ſnows and ſtorms,
And circling myriads ſtill of barbarous foes.
Greece in their view, and glory yet untouch'd,
Their ſteady column pierc'd the ſcattering herds
Which a whole empire pour'd, and held its way
Triumphant, by the ſage-exalted Chief
Fir'd and ſuſtain'd. Oh! light and force of mind
Almoſt almighty, in ſevere extremes!
The ſea, at laſt, from Colchian mountains ſeen,
Kind-hearted tranſport round their captains threw
The ſoldiers' fond embrace: o'erflow'd their eyes
With tender floods, and loos'd the general voice
To cries reſounding loud——The ſea! the ſea!

THOMSON'S LIBERTY.

The diſtance from Cunaxa, the place of engagement, to Cotyora, near Ceraſus and Trapezond, on the coaſt of the Black Sea, where the ten thouſand embarked, is generally ſuppoſed to be about 600 leagues; how many inches and barley-corns are in that ſpace? *Anſ.* 114,048,000 inches; 342,144,000 barley-corns.

No. 208. CIRCUMFERENCE OF THE EARTH. It is an old and familiar adage, that patience and perſeverance overcome the greateſt difficulties. The moſt laborious works, ſays Dr. Johnſon, are performed, not by ſtrength, but perſeverance. The higheſt and moſt ſpacious palace was raiſed by ſingle ſtones; and he that ſhould walk with vigour three hours a day, will paſs, in ſeven years, a ſpace equal to the circumference of the globe, which, at the equator, is 360 degrees, or 25,020 Engliſh miles. How many barley-corns will encompaſs it; and how many miles per hour, and per day, muſt a perſon walk to accompliſh the doctor's aſſertion? *Anſ.* 4,755,801,600 barley-corns; $3\frac{1}{4}$ miles per hour, 435 remainder; and $9\frac{3}{4}$ miles per day, 435 remainder.

No. 209. SPINNING COTTON. Manchester in Lancaſhire, ſays the ingenious lecturer in philoſophy, Mr. Walker, is a well-built town; doubled in its ſize within the laſt thirty years; more than doubled

doubled in the number of its inhabitants; and enriched by the cotton manufactory beyond the power of calculation! To ſuch perfection has the ſpinning of cotton by machinery arrived, that a pound of raw cotton has, for a wager, been ſpun into 356 hanks, each containing 840 yards.

Tour, p. 31.

How many yards, feet, inches, and miles, are in the number of hanks mentioned by Mr. Walker? *Anſ.* 299,040 yards; 897,120 feet; 10,765,440 inches; 169 miles, 57,600 inches (equal to 1600 yards) remaining.

No. 210. SPINNING WORSTED. Mr. Gates of Spalding, in a ſeries of letters to Lord Romney, has communicated an account of the amazing efforts of Miſs Ann Ives of that town, in ſpinning fine woollen yarn, which ſhe has brought to a degree of perfection hitherto unknown in this part of the world. One pound weight of Engliſh wool was ſpun by this young lady into 256 ſkains of yarn, each 560 yards long; a ſurpriſing degree of fineneſs!

What number of yards, barley-corns, and miles, are contained in the yarn ſpun by the ingenious Miſs Ives? *Anſ.* 143,360 yards; 15,482,880 barley-corns; 81 miles, and 86,400 barley-corns (equal to 800 yards) remaining.

No. 211. NATIONAL DEBT. The word *fund*, in general, ſignifies any ſum of money appropriated for a particular purpoſe. But, when we ſpeak of *the funds*, we uſually mean the large ſums of money which have been lent to government, and conſtitute the *national debt*; and for which the lenders, or their aſſignees, receive intereſt from revenues allotted for that purpoſe. The term *ſtock* is uſed in the ſame ſenſe.

The practice of funding was introduced by the Venetians and Genoeſe in the ſixteenth century, and has been adopted ſince by moſt of the nations in Europe. Princes had often borrowed money, in former times, to ſupply their exigencies, or to carry on their ſchemes, and ſometimes mortgaged their territories in ſecurity: but theſe loans were generally extorted, and their payment was always precarious; for it depended on the good faith and ſucceſs of the borrower, and never became a regular burden on poſterity. The origin of funds is derived from the peculiar manners and circumſtances of modern Europe. Since the invention of gunpowder, and the progreſs of commerce, the military occupation has become a diſtinct employment in the hands of mercenaries; the apparatus of war is attended with more expence; and the deciſion of national quarrels has often been determined, rather by the command of money than by national bravery. Ambitious princes have, therefore, borrowed money, in order to carry on their projects with more vigour. Weaker ſtates have been induced, from motives of ſelf-defence, to apply to the ſame reſource; and the wealth introduced by commerce has afforded the means.

The

The eſtabliſhment of the funds was introduced in England at the time of the revolution; and has ſince been gradually enlarged, and carried to an amazing extent. Miniſters of ſtate, in conſequence of the funding ſyſtem; and the facility with which money was raiſed for the purpoſes of government, have been induced the more readily to engage in unneceſſary and moſt pernicious wars *. This has occaſioned the people of this country to be burthened with numerous and oppreſſive taxes, and been productive of great national evils.

The national debt of England is eſtimated by political writers at three hundred and thirty millions ſterling. Suppoſe this enormous ſum counted in ſhillings, each meaſuring an inch in breadth, and all placed in contact with each other's edges, what length of line would they require? *Anſ.* 104,166 miles, 1,173 yards, 1 foot: a ſpace which is 4,086 miles more than *four times* the circumference of our earth at the equator, its wideſt part, excluſive of the odd yards, &c. mentioned above.

N. B. The equatorial circumference of the earth is 25,020 Engliſh miles.

LAND MEASURE.

No. 212. FIRE OF LONDON. The ruins of the city of London, in the great fire, A. D. 1666, of which an account is given in the 161ſt queſtion, are computed to have covered 69,760 perches of ground, from the Tower by the Thames ſide, to the Temple church, and from the north-eaſt gate, along the city wall, to Holborn-Bridge. How many roods and acres are in that quantity; and how many lots, each containing 1 acre, 1 rood, and 1 perch? *Anſ.* 1744 roods, 436 acres; and 347 lots $\frac{13}{201}$.

No. 213. PYRAMIDS. A pyramid is a ſolid figure, whoſe baſe is a polygon, and whoſe ſides are plain triangles, their ſeveral points meeting in one. The pyramids of Egypt are ſome of the moſt ancient ſtructures on our earth. They deſcend even from an unknown antiquity. Herodotus, who wrote 2000 years ago, ſpeaks with as much uncertainty about the time when they were conſtructed as we do at preſent. Theſe majeſtic monuments are generally ſuppoſed to have been deſigned as places of ſepulture for the Egyptian kings.

> Inſtead of uſeful works, like Nature's, great,
> Enormous, cruel wonders, cruſh'd the land,
> And round a tyrant's tomb, who none deſerv'd,
> For one vile carcaſe periſh'd countleſs lives.
>
> THOMSON.

* The American war, which might eaſily and honourably have been avoided, which was ingloriouſly commenced and ingloriouſly terminated, and which ſcarcely any man will now be found hardy enough to defend, coſt this nation above one hundred millions of money, and many thouſand valuable lives. *See Queſtion* 216.

Some

Some authors, however, contend, that they were conſtructed in honour of the Deity. They have always been ranked among the wonders of the world. The charge of building them was immenſe. According to Herodotus, 100,000 workmen were employed for thirty years without intermiſſion in preparing the materials, or conſtructing the work; and he adds, that 1,600 talents of ſilver were expended in radiſhes, onions, and garlick * by the workmen; a ſum equal, according to different calculations, to about £400,000, £289,379, or, at leaſt, £220,000 ſterling. Three of theſe magnificent ſtructures yet remain, at the diſtance of ſome leagues from Grand Cairo, where Memphis formerly ſtood. The perpendicular height of the largeſt, called the Great Pyramid, is about 450 feet; if meaſured obliquely, 700; and its baſe covers 1760 perches of ground. How many acres are in this quantity? *Anſ.* 11 acres.

No. 214. INUNDATION. Inundation is a ſudden overflowing of the dry land by the waters of the ocean, rivers, lakes, ſprings, or rains. The word inundation, it is remarked by Cowley, implies leſs than deluge.

Hiſtory has recorded innumerable inſtances of the devaſtations occaſioned in various parts of the globe by inundations. Several of theſe are enumerated in Mr. Mortimer's Student's Dictionary, from which we ſhall ſelect the two following.

In 1446, a dyke broke at Dort, or Dordrecht, in Holland, by which the adjacent diſtricts were entirely deluged, and 100,000 human beings loſt their lives. A ſimilar cataſtrophe befell the ſame country in 1570, when no leſs than 400,000 perſons were drowned.

The dangerous banks called the Goodwin-Sands, ſituated oppoſite to the iſle of Thanet in Kent, are traditionally ſuppoſed to have been formerly part of the domains of the potent and imperious Goodwin, or Godwin, earl of Kent, father of king Harold. Theſe ſands, which often prove fatal to ſailors, run parallel with the coaſt between the North and South Forelands, for the ſpace of three leagues. They were formed by an inundation of the ſea in the year 1100, which englutted 640,000 perches of land: how many acres were abſorbed by this diſaſter? *Anſ.* 4,000 acres.

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* Garlick has, of all our plants, the greateſt ſtrength, affords moſt nouriſhment, and ſupplies moſt ſpirits, to thoſe who eat little fleſh. It ſeems to have been a conſiderable article of food in ancient times.

> Honey new-preſs'd, the ſacred flour of wheat,
> And wholeſome garlick crown'd the ſav'ry meat.
>
> POPE'S HOMER.

The Spaniards at preſent eat great quantities of garlick. Mr. Townſend ſaw two waggons loaded with it near Carthagena, which he was aſſured was the weekly ſupply for that city.

Journey, vol. iii. *p.* 150.

No. 215. GARDENING. Gardening was probably one of the firſt arts that ſucceeded to that of building houſes, and naturally attended property and individual poſſeſſion. Culinary, and afterwards medicinal herbs, were the objects of every head of a family: it became convenient to have them within reach, without ſeeking them at random in woods, in meadows, and on mountains, as often as they were wanted. When the earth ceaſed to furniſh ſpontaneouſly all thoſe primitive luxuries, and culture became requiſite, ſeparate encloſures for rearing herbs grew expedient. Fruits were in the ſame predicament; and thoſe moſt in uſe, or that demand attention, muſt have entered into and extended the domeſtic encloſure. Thus we acquired kitchen-gardens, orchards, and vineyards: no doubt the prototype of all theſe ſorts was the garden of EDEN.

A cottage, and a ſlip of ground for a cabbage and a gooſeberry-buſh, ſuch as we ſee by the ſide of a common, were, in all probability, the earlieſt ſeats and gardens. As ſettlements increaſed, the orchard and the vineyard followed; and the earlieſt princes of tribes poſſeſſed juſt the neceſſaries of a modern farmer. Matters, we may well believe, remained long in this ſituation; and we have reaſon to think that, for many centuries, the *garden* implied no more than a kitchen-garden or orchard. The garden of Alcinous, in the Odyſſey, is the moſt renowned in the heroic times; yet its whole compaſs encloſed only four acres:

> Four acres was th' allotted ſpace of ground,
> Fenc'd with a green encloſure all around.

The trees were apples, figs, pomegranates, pears, olives, and vines.

Previouſly to this, however, we have in the ſacred writings hints of a garden more luxuriouſly furniſhed.

See the Song of Solomon. Horace Walpole's Hiſt. of Gardening.

Gardening, in the perfection to which it has been lately brought in Britain, is entitled to a place of conſiderable rank among the liberal arts. It is as ſuperior to landſcape painting as a reality to a repreſentation: it is an exertion of fancy; a ſubject for taſte; and being releaſed now from the reſtraint of regularity, and enlarged beyond the purpoſes of domeſtic convenience, the moſt beautiful, the moſt ſimple, the moſt noble ſcenes of nature, are all within its province.

Wheatley's Obſ. on Mod. Gard.

No pleaſure derived from art has been ſo univerſal as that taken in gardens. This, in the firſt place, was owing to the union of ſimple gratifications they afforded; not fewer than four of the ſenſes, the taſte, ſmell, ſight, and feeling, being moſt agreeably affected by horticulture.

Dr. Aikin's Letters to his Son.

The moſt magnificent and ſplendid gardens in England are thoſe of STOWE in Buckinghamſhire, which were laid out by the late Lord Viſcount Cobham, and are now poſſeſſed by the marquis of Buckingham, his nephew.

The magnificent boundary, round the whole circuit of Stowe gardens, comprehends, according to Mr. Wheatley, a ſpace of nearly 400 acres. How many perches are in that quantity; and how many lots, each containing 39 perches, can the ſaid number of perches be divided into? *Anſ.* 64,000 perches; 1641 lots $\frac{1}{39}$.

No. 216. UNITED STATES. Great part of North America was colonized by Britiſh ſubjects, and, till the late diſaſtrous American war, formed part of the Britiſh empire.

The ſenſations of the firſt coloniſts, who, to avoid civil and religious tyranny, fled from the cultivated plains of England, the comforts of civilized life, and the ſtronger attachment of kindred and habits, to take refuge in the woods and marſhes of America, are admirably expreſſed by the late reſpectable Mr. Day, in the ſubſequent nervous lines.

The favour'd clime, the ſoft domeſtic air,
And wealth and eaſe, were all below their care;
Since there an hated TYRANT met their eyes,
And blaſted every bleſſing of the ſkies.
For not the winding ſtream, or painted vale,
The ſweets of ſummer, or the vernal gale,
Were form'd to fetter down the noble ſoul
Beneath the magic of their ſoft controul.
Wherever nature bids her treaſures riſe,
Or circling planets ruſh along the ſkies,
Or ocean rolls his ever-ebbing wave,
Has fate ordain'd a refuge for the BRAVE,
Who claim from Heaven (and Heaven allows the claim)
To *live with* FREEDOM, or to *die with* FAME;
And find, alike contented with their doom,
In every clime a COUNTRY or a TOMB.

The brave deſcendants of thoſe illuſtrious SONS OF LIBERTY (as the late Colonel Barré emphatically ſtyled the Americans, in the Engliſh Houſe of Commons*) finding, as they conceived, their rights repeatedly invaded by ſeveral obnoxious and oppreſſive acts of the Britiſh parliament, at length took arms in 1775, and, after a glorious conteſt with the mother country of nearly eight years continuance, terminated the war in *Freedom*, *Security*, and *Independance*, under the command of GENERAL WASHINGTON, the great defender of the cauſe of liberty in the New World. The thirteen provinces which had thus reſolutely united, and ſtrenuouſly fought to reſcue themſelves and poſterity from what they deemed peculation and tyranny, are now known by the ſtyle of the UNITED STATES OF AMERICA; a title which all nations have admitted, and which various defeats and diſaſters at length compelled even Great-Britain to acknowledge in the moſt authentic manner, and with expreſſions and declarations that convey a full recognition of their independent ſovereignty.

* See Dr. Gordon's Hiſt. Amer. Rev. vol. i. p. 160, 167.

The

The unfortunate war, whoſe cauſe and iſſue we have now curſorily mentioned, is ſtated to have coſt the inhabitants of Great-Britain, who were before overwhelmed with debts and taxes, £115,654,914 ſterling, which enormous principal, ſince January 1775, requires a proviſion of £4,557,575, for the annual liquidation of its intereſt. The loſs of men on each ſide is not a leſs deplorable evil. According to authentic eſtimates, there periſhed by the ſword, fatigue, and confinement, nearly 80,000 Americans; and, by the returns at New-York, the number of Britiſh killed in the ſervice, amounted to 43,633.

The whole territory of the United-States of America is ſaid to contain by computation a million of ſquare miles, in which are 640 millions of acres. Of theſe 51 millions are water; deducting theſe, what number of acres, roods, and perches of land, do the United-States contain? *Anſ.* 589,000,000 acres, 2,356,000,000 roods, 94,240,000,000 perches.

No. 217. ENGLAND. England is the ſouthern part of the iſland of Great-Britain, which is itſelf the principal of the European iſlands; "a precious ſtone ſet in the ſilver ſea."

"Britain the queen of iſles our fair poſſeſſion
"Secur'd by nature, laughs at foreign force;
"Her ſhips her bulwark, and the ſea her dyke,
"Sees plenty in her lap, and braves the world."

Such noble warlike ſteeds, ſuch herds of kine,
So ſleek, ſo vaſt; ſuch ſpacious flocks of ſheep,
What other paradiſe adorn but thine,
Britannia?———————————————
———To theſe thy naval ſtreams,
Thy frequent towns ſuperb of buſy trade,
And ports magnific add, and ſtately ſhips
Innumerous.

DYER.

But what ſhould endear our country ſtill more to us, is the conſideration of its having been long the reſidence of a greater degree of political and religious liberty than has been enjoyed in almoſt any other part of the world. An Engliſhman muſt alſo naturally derive conſiderable pleaſure from the reflexion, "that ſome of the eminent writers of his own country have greatly contributed to diffuſe that ſpirit of freedom, which has lately been exhibited in different parts of Europe, as well as on the other ſide of the Atlantic. The French nation have had the generoſity to acknowledge this; and much of that flame of liberty, which has characterized the Americans of the preſent age, was undoubtedly derived from the mother-country, and from that light and knowledge, which were communicated to the Britiſh colonies from the LOCKES and the SYDNEYS of England."—"That ſun of liberty, ſays Mr. Wakefield, which has ſhot his beams even into

into the extremities of the *weſtern hemiſphere*, and is invigorating *European* nations with meridian rays, firſt roſe from the boſom of OUR ISLAND: and may he never ſet, till every veſtige of ſlavery and ſuperſtition be effaced from *it* and from the earth; till FREEDOM have eſtabliſhed on the hearts of men UNIVERSAL EMPIRE.

Memoirs, p. 404.

Political writers greatly vary in their accounts of the quantity of land in England. Dr. Grew makes the number of acres amount to upwards of 46 millions. Sir William Petty reckons but 28, others eſtimate them at 29 millions; and Dr. Davenant ſtates the quantity of land in England and Wales to be 39 millions of acres. Mr. Zimmerman ſuppoſes that England contains about 42 millions of acres: how many roods and perches are in that quantity? *Anſ.* 168,000,000 roods, 6,720,000,000 perches.

No. 218. WASTE LANDS IN GREAT-BRITAIN. By the report of the committee of agriculture, it appears, that the total amount of waſte lands in our iſland is as follows: England 6,259,470 acres; Wales 1,629,507; and Scotland 14,218,124 acres. On the conſideration of this ſubject, where is the man who will not exclaim, with the author of the *Political Arithmetic*, "When will the miniſter ariſe, who, amidſt the profuſion of the public money, will have virtue enough to appropriate ONE POOR MILLION to the cultivation of the waſte lands of this country?"

What is the entire number of acres in the above quantity, and how many farms, each containing 50 acres, 3 roods, and 39 perches, might they be divided into? *Anſ.* 22,107,101 acres; 433,525 farms $\frac{1685}{8130}$.

DRY MEASURE.

No. 219. CORN. This word denotes either a genus of plants, which produce a grain in an ear fit for bread, the ordinary food of man; or the grain, or ſeed, of that plant, ſeparated from the ſpica, or ear. In the commerce of grain, *corn* generally means wheat, but the farmers rank among the number of *corns* ſeveral other grains, as rye, barley, &c. Concerning the diſcovery and culture of corn, authors are much divided. The common opinion is, that in the firſt ages men lived on the ſpontaneous fruits of the earth, as acorns, &c. having neither the uſe of corn, nor the art of preparing or making it eatable. CERES has the credit of being the firſt that ſhowed the uſe of corn, on which account ſhe was placed among the gods: and *Ceres* is metaphorically called *bread* and *corn*, as the word *Bacchus* is ſometimes uſed to ſignify *wine*. The Athenians pretend, that it was among them the art of uſing

corn

corn began; and the Cretans, Sicilians, and Egyptians lay claim to the ſame. Some think, that the title of the Sicilians is beſt ſupported, that being the country of Ceres: others, however, maintain, that it was in Egypt the art of cultivating corn originated; and it is certain, that there was corn in Egypt, and the Eaſt, long before the time of Ceres. And it appears, both from ſacred and profane hiſtory, that Egypt was anciently the moſt fertile of all other countries in corn; furniſhing with it a conſiderable part of the people ſubject to the Roman empire, and was therefore called the *dry nurſe of Rome and Italy*. BRITAIN, France, and Poland, ſeem, till lately, in the place of Egypt, and with their ſuperfluities to have ſupported a good part of Europe. Corn may be preſerved for ſeveral centuries.

See the Cyclop. and Ency. Brit.

The proceſs attending the cultivation of corn is well deſcribed in the following lines:

The huſbandman
Purſues his cares; his plough divides the glebe;
The ſeed is ſown; rough rattle o'er the clods
The harrow's teeth; quick weeds his hoe ſubdues;
The fickle labours, and the ſlow team ſtrains,
Till grateful harveſt-home rewards his toils.

DYER.

It has been juſtly remarked, that agriculture is the art of free nations, and that it can never flouriſh under the fetters of deſpotiſm. The ancient republics afford us ſeveral inſtances of generals and ſtateſmen having exchanged their boiſterous employments, in wars and politics, for the more peaceable ones of the fields, and the cultivation of the ground. Thus adding to the culture of philoſophy that of rural œconomy, and rendering themſelves doubly ſerviceable to their country.

In ancient times, the ſacred plough employ'd
The kings and awful fathers of mankind;
And ſome, with whom compar'd your inſect-tribes
Are but the beings of a ſummer's day,
Have held the ſcale of empire, rul'd the ſtorm
Of mighty war, then with unwearied hand,
Diſdaining little delicacies, ſeiz'd
The plough, and greatly independent liv'd.

THOMSON.

The arable lands ſown with wheat in ENGLAND produce, it is computed, 34,000,000 buſhels of this valuable grain annually; how many quarters, weys, and laſts, are in that quantity? *Anſ.* 4,250,000 quarters; 850,000 weys; 425,000 laſts.

No. 220. BARLEY. The principal uſe of this well-known ſpecies of grain among us, is for the making of beer; in order to which it is firſt malted. In Scotland, barley is a common ingredient in broths; and the conſumption of it for that purpoſe is very conſiderable;

derable; *barley-broth* being a diſh as frequent there as that of *ſoup* in France. Pearl-barley is barley freed from the huſk by a mill. Barley-water is a decoction of this laſt, reputed ſoft and lubricating, of frequent uſe in phyſic, as a beverage in many diſorders; and is recommended, with nitre, by ſome authors of reputation, in ſlow fevers.

The quantity of barley produced in England is ſuppoſed to be much greater than that of wheat. In 49,876,543 buſhels of this grain how many pints, and how many portions, each containing 10 buſhels, 1 pint? *Anſ.* 3,192,098,752 pints; 4,979,873 portions $\frac{159}{641}$.

No. 221. MALT. Malt denotes barley cured, or prepared for making a potable liquor, under the denomination of beer or ale. Barley is converted into malt by being ſteeped in water and fermented, and then dried on a kiln; which is a ſort of ſtove ſo conſtructed as to admit heat for the purpoſe of drying any thing.

It is conjectured, that twenty-three millions of buſhels of barley are annually converted into malt in England. How many carts may be loaded from that quantity, each carrying 5 quarters, 1 buſhel, 2 pecks? *Anſ.* 554,216 $\frac{144}{160}$.

No. 222. COAL. Coal is a common foſſil fewel. Mr. Brand, in his Hiſtory of Newcaſtle, obſerves, that though ſome writers have not ſcrupled to affirm that coal was unknown to the ancient Britons, yet others have contended for the contrary by almoſt irreſiſtible arguments. And the facts and teſtimonies, adduced by Mr. Brand, afford much reaſon to conclude, that coal, though at firſt unnoticed in Britain by the Romans, was afterwards in actual uſe among them.

The firſt public mention of coal we meet with is in the year 1232, when king Henry III. confirmed the charter, granted by John his father, to the inhabitants of Newcaſtle, to dig coals in the common ſoil without the walls, and to convert them to their own profit, in aid of their *fee-f. m* rent of £100 per annum. The meaſure whereby coal is ſold in London is the chaldron, containing 36 buſhels; but in ſeveral parts of the country it is diſpoſed of by weight at ſo much per ton. cwt. &c.

The coal trade is generally allowed to be the beſt nurſery for Britiſh ſeamen. Sailors bred up in that trade can hardly be equalled for ſkill, ſpirit, and hardineſs in their profeſſion. And the duty on coals is an important branch of revenue, amounting, it is affirmed, to half a million ſterling per annum.

The quantity annually imported into London, deduced from an eſtimate of 10 years, viz. from 1770 to 1779, is 658,853 chaldrons. How many buſhels and pecks are in that quantity? *Anſ.* 23,718,708 buſhels, 94,874,832 pecks.

No. 223.

No. 223. NUTS. Nut, among Botaniſts, denotes a *pericarpium* of an extraordinary hardneſs; which contains a ſofter edible nucleus, or kernel. Of theſe we have divers kinds; as ſmall nuts, filberds, cheſnuts, walnuts, &c.

Amiens, a handſome town in the department of Somme, and late province of Picardy in France, was taken by the Spaniards in 1597, by the following ſtratagem: ſoldiers, diſguiſed like peaſants, conducted a cart loaded with *nuts*, and let a bag of them fall juſt as the gate was opened; and while the guard was buſy in gathering them up, the Spaniards entered, and became maſters of the place. It was retaken by Henry IV. who was aſſaſſinated in Paris in 1610.

Suppoſe the above-mentioned cart to have been loaded with 14 ſacks of nuts, each ſack containing 3 buſhels, 3 pecks, 1 gallon, 1 pottle, 1 quart, and 1 pint; how many pints are contained in the whole? *Anſ.* 3570 pints.

No. 224. WHIRLWIND. There are ſeveral ſorts of whirlwinds diſtinguiſhed by their peculiar names.

See the Cyclop.

That which is moſt properly called a vortex, or whirlwind, is an impetuous wind, turning rapidly every way, and ſweeping all around the place. It frequently deſcends from on high; and this kind is frequent in the eaſtern ocean, chiefly about Siam, China, &c. which renders the navigation in thoſe parts exceedingly dangerous.

In the month of May 1782, a moſt furious whirlwind, accompanied with heavy rains, almoſt ruined FORMOSA, an iſland near the coaſt of China, in Aſia. The courts of judicature, public granaries, warehouſes, the ſhops of tradeſmen, and private dwellings, were levelled to the ground, and appeared little more than a heap of ruins. Among the ſhipping the havock was equally dreadful. There were ſeventeen men of war in the harbour when the tempeſt began; of theſe two were ſunk, two were daſhed to pieces, and ten were ſo dreadfully ſhattered, as to be rendered totally unfit for ſervice. The ſmaller ſhips, which were about 100 in number, ſhared nearly the ſame fate; for more than eighty were ſunk, of which five had juſt taken their lading on board, which amounted to a hundred thouſand buſhels of rice: all this was totally loſt.

How many lots, each containing 3 buſhels, 2 pecks, 1 gallon, 1 pottle, 1 quart, and 1 pint, does the above quantity contain? *Anſ.* 26,778 lots, $\frac{58}{239}$.

WINE MEASURE.

Wine is defined a briſk, agreeable, ſpirituous, and cordial liquor, extracted from vegetable bodies, and fermented. All ſorts of vegetables, fruits, ſeeds, roots, &c. may be made to afford it; as grapes, pulſe,

pulſe, peas, turnips, radiſhes, and even graſs. The word wine is, however, appropriated, in a more particular manner, to the fermented juice of the grape. Of this various ſorts are made in France, Germany, Spain, Portugal, Hungary, and Italy. Concerning the acquaintance which our progenitors had with wine, it has been conjectured, that the Phœnicians might poſſibly have introduced a ſmall quantity of it; but this liquor was very little known in our iſland before it was conquered by the Romans. Wine is of extenſive utility, not only as a beverage, but as a medicine; and ſeveral eminent phyſicians recommend it as an excellent cordial, peculiarly ſalutary in fevers, &c.

No. 225. PORT-WINE. This wine receives its name from being made in the diſtricts adjacent to Oporto, or Porto, a rich, handſome, and conſiderable town of Portugal; and on this account all red wines that come from Spain or Portugal are uſually called Port-wines.

The Portugueſe wines, when old and genuine, are eſteemed to be very friendly to the human conſtitution, and ſafe to drink; but it is generally ſuppoſed, that not half the quantity that is conſumed under the name of port-wines, in the Britiſh dominions only, comes from Oporto. The merchants in this city have, however, very ſpacious wine-vaults, capable of containing ſix or ſeven thouſand pipes; and it is ſaid, that twenty thouſand pipes are annually exported from Oporto. How many pints are in the quantity laſt mentioned? *Anſ.* 20,160,000 pints.

No. 226. GERMAN WINES. There are excellent wines made in the imperial dominions; in Tyrol; in the Palatinate; and particularly on the banks of the Rhine and Moſelle, two large rivers in the weſtern part of Germany. The Rheniſh and Moſelle wines differ from thoſe of other countries in a peculiar lightneſs and deterſive quality, and are ſaid to be more ſovereign in ſome diſeaſes than any medicine. A certain writer calls the Rheniſh made in Hockheim*, the prince of German wines. Old, ſtrong, rheniſh wine, is called *hock*, or *hockamore*.

Made 'em ſtoutly overcome,
With bachrach, *hockamore*, and mum.

HUDIBRAS.

The city of BREMEN, on the river Weſel, in Lower Saxony, Germany, is, ſays Mr. Wraxall, noted for its old hock, which is brought from the banks of the Rhine, and depoſited in the public cellars. Theſe are wonderfully capacious, but are not comparable in magnificence to thoſe at Oeyras in Portugal, belonging to the marquis de Pombal,

* Hockheim, or Hockham, is only an inconſiderable village, not far diſtant from the city of Mentz, on the Rhine.

or

or thoſe of Conſtantia at the Cape of Good Hope. There is one particular room, called the Roſe, where they keep wine, which they ſtate to be 170 years old, and for which they aſked £1 5*s.* a bottle.

At HEIDELBURG, on the river Neckar, near its junction with the Rhine, Germany, there was a tun or wine veſſel conſtructed, in 1343, which contained twenty-one pipes. Another was made, or the one now mentioned rebuilt in 1664, which held ſix hundred hogſheads, Engliſh meaſure. This was emptied, and knocked to pieces by the French in 1688. But a new and larger one was afterwards fabricated by order of the elector Charles Lewis, which, according to Salmon, held eight hundred hogſheads. It was formerly kept full of the beſt Rheniſh wine, and the electors have given many entertainments on its platform; but this convivial monument of ancient hoſpitality is now, ſays Mr. Walker, but a melancholy, unſocial, ſolitary inſtance of the extinction of hoſpitality; it moulders in a damp vault, quite empty. It is, continues the ingenious philoſophical lecturer, nine yards long, ſeven in diameter, and holds 67,000 gallons, a meaſure, however, he adds, greatly inferior to many of the London porter-tubs.

How many tuns, &c. does this famous veſſel contain according to this calculation? *Anſ.* 265 tuns, 1 pipe, 1 hhd, 31 gallons.

No. 227. TUN OF KONIGSTEIN. This celebrated veſſel is ſaid to be the moſt capacious caſk in the world; holding 1,869,336 pints. Its length is ſeven Dreſden ells, and its diameter at the bung twelve ells. The top is railed in, and affords room for twenty people to regale themſelves. There are alſo ſeveral kinds of welcome cups, which are offered to ſtrangers, who are invited, by a Latin inſcription, to drink to the proſperity of the univerſe. It was built in 1725. Konigſtein is a fortreſs erected on the ſummit of a perpendicular rock, about five miles from Dreſden in Saxony, Germany, and is uſed as a place of confinement for ſtate priſoners.

See Mr. Payne's Geo. vol. ii. *p.* 175, &c.

How many hogſheads, pipes, and tuns does the Konigſtein caſk contain? *Anſ.* 3,709 hhds; 1854 pipes and 1 hhd; 927 tuns.

No. 228. FRENCH WINES. The wines of France are peculiarly excellent; and though they differ very ſenſibly in their taſte and properties, there are few conſtitutions, be they ever ſo valetudinary, to which ſome one or other of them is not adapted.

Thomſon, in his Autumn, has thus characterized ſome of theſe delicious wines:

> The Claret ſmooth and red,
> The mellow-taſted Burgundy, and, quick
> As is the wit it gives, the gay Champaigne.

At Clervaux, a ſmall town in the department of Aube, and late province of Champaigne, in France, there are ſeveral enormous

caſks which will contain from one hundred to four hundred tuns of wine; and the famous tun of St. Bernard will hold no leſs than 1,612,800 pints of this liquid. In theſe capacious veſſels wine is ſometimes kept for the ſpace of ten years.

How many tuns does St. Bernard's tun contain? *Anſ.* 800 tuns.

No. 229. MADEIRA WINE. This is the produce of Madeira, a beautiful and fertile iſland, ſituated in the Atlantic ocean, in about 33 degrees of north latitude, and 17 degrees of weſt longitude. The wines of Madeira are greatly improved by the heat of the ſun, and therefore acquire a conſiderable augmentation of price by being conveyed acroſs the equator previouſly to their arrival in England. The iſland of Madeira, which belongs to Portugal, produces twenty-eight thouſand pipes of wine annually, eight thouſand of which are drank there, and the reſt exported; principally to the Weſt-Indies.

How many bottles, each containing three pints and a half, might be filled with the quantity of wine ſaid to be produced yearly in the iſland of Madeira? *Anſ.* 8,064,000 bottles.

No. 230. SPANISH WINES. The principal Spaniſh wines are ſherry, pacaretta, mountain, and tent. Sherry is a ſort of *ſec* or dry wine, prepared about XERES, in the dioceſe of Seville, Andaluſia, Spain; and hence called, according to our orthography, ſherris, or ſherry. The wines moſt remarkable in Cadiz are ſherry and pacaretta, both from Xeres and its vicinity. In the diſtrict of Malaga there are fourteen thouſand vine-preſſes, chiefly employed in making the rich wines, which, if white, from the nature of the country, is called *mountain*; if red, from the colour, *vino tinto*, known to us by the name of *tent*. The wine of La Mancha* appeared to Mr. Townſend to be the beſt in Spain: it had, he ſays, the flavour of the richeſt Burgundy, with the ſtrength and body of the moſt generous port.

Journey, vol. ii. *p.* 263, 390. *vol.* iii. *p.* 29.

The ſame entertaining traveller informs us, that one merchant exported 5,000 butts of wine in a year from Malaga. Mr. Townſend calculates the butt at 135 gallons. How many gallons, quarts, and pints are in the above quantity, and of each an equal number? *Anſ.* 490,909 $\frac{1}{11}$.

No. 231. MALMSEY. This wine was formerly the produce of Candia, the iſlands in the Archipelago, and the Morea in Greece; but is now chiefly brought from Madeira, and ſome from Spain. It

* La Mancha is a territory in the province of New Caſtile, ſituated between the river Guadiana and Andaluſia. It is a mountainous country; and is greatly endeared to the admirers of genuine wit and humour on account of its "far-famed" knight, the renowned Don Quixote, who is ſuppoſed to have performed his chief exploits in this diſtrict.

is

is a ſweet wine, of a golden or browniſh-yellow colour; and to this is applied an Italian proverb, ſignifying, *manna to the mouth, and balſam to the brain.* Malmſey is ſaid to have received its name from Malvaſia, a ſmall iſland eaſt of the Morea, a peninſula, in Turkey in Europe. The French call this wine Malvoiſac. The duke of Clarence, brother to Edward IV. is ſaid to have been drowned in a butt of malmſey.

How many gills are contained in a butt of malmſey? *Anſ.* 4,032 gills.

N. B. A gill is a liquid meaſure, the fourth part of a pint.

No. 232. SACK. This is a kind of ſweet wine now brought chiefly from the Madeira iſlands, and Palma, one of the Canaries. The firſt is called Madeira *ſec*, the latter, which is the richer and better of the two, Canary or Palm *ſec*. The name ſack is a corruption of ſec, which ſignifies dry; thoſe wines being made from half-dried grapes: but wine-merchants of the preſent day uſe the word *ſoft* to denote the ſame quality. The ſack of Shakeſpeare is believed to be what is now called ſherry.

See Mr. Malone's Shakeſpeare; firſt part of Henry IV.

If $\frac{2}{3}$ of a pipe of ſack were bottled off into quarts, and the remainder into pints, how many dozen would there be of each? *Anſ.* 28 of each.

No. 233. ENGLISH WINE. Mr. Miller aſſerts, that he has made wine from Engliſh grapes, as good as any of the beſt and pureſt French wines, drank either in Paris or Champaigne. *See the Cyclop. art. Wine.* It is ſuppoſed, that we had formerly conſiderable vineyards in England, particularly in Glouceſterſhire. *See Dr. Aikin's England Delineated.* And about a century after the acceſſion of William the Norman, there was a vineyard near Pembroke, in Wales.

Ency. Brit. art. Ale.

Our domeſtic wines, commonly called *ſweets* or *made wines*, are now chiefly made from raiſins; and perſons ſkilled in the buſineſs can produce a variety of artificial wines, which bear a great reſemblance to many foreign ones. Our good houſewives, moreover, make a pleaſant vinous beverage from no leſs than thirty ſeveral ſorts of fruits, &c.*

> Now will the corinths†, now the raſps, ſupply
> Delicious draughts; the quinces now, or plums,
> Or cherries, or the fair Thiſbean‡ fruit,
> Are preſs'd to wines.

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* See Farley's Art of Cookery.

† Currants.

‡ The mulberry; ſee Pyramus and Thiſbe, Mr. Lempriere's Dict.

Beſides

Beſides the orchat, ev'ry hedge and buſh
Affords aſſiſtance; ev'n afflictive birch,
Curs'd by unletter'd, idle youth, diſtils
A limpid current from her wounded bark
Profuſe of nurſing ſap. When ſolar beams
Parch thirſty human veins, the damaſk'd meads
Unforc'd diſplay ten thouſand painted flow'rs
Uſeful in potables. Thy little ſons
Permit to range the paſtures; gladly they
Will mow the cowſlip poſies, faintly ſweet,
From whence thou artificial wines ſhalt drain
Of icy taſte, that, in mid fervours, beſt
Slake craving thirſt, and mitigate the day.

PHILIPS.

If a hogſhead and half of cowſlip wine be drawn off into bottles containing ſeverally two gallons, one gallon, a quart, and a pint, in equal numbers, how many would there be of each ſort? *Anſ.* 21 of each; 18 pints remaining.

No. 234. FALERNIAN WINE. The Falernian wine ſo much celebrated by the ancient Roman poets, particularly Virgil and Horace, was the produce of Falernus, a fertile mountain and plain of Campania, a diſtrict of Italy in which Rome is ſituated.

Among the Romans, the age of wines was in a manner the criterion of their goodneſs; and Horace, in his odes, boaſts of his drinking Falernian wine, born, as it were with him, or which reckoned its age from the ſame conſuls. What was called Opimian wine is ſaid to have been kept for two hundred years; but the moderns keep no wines to any ſuch age; for in Italy and Germany, where they are longeſt preſerved, ſcarcely any are found above fifteen years old; and in France, the beſt keeping wines are reckoned ſuperannuated in five or ſix years.

The wines of Italy are ſtill deemed excellent, particularly thoſe of Savoy, Piedmont, Lombardy, the Pope's territories, Naples, and Tuſcany. Florence, the capital of the laſt-mentioned diſtrict, is delightfully ſituated in "Arno's fertile vale," between mountains covered with olive-trees and vines.

"There grapes in thickeſt cluſters hang
"Among the ſweets of Arno's vale."

If a tun of Florence wine were bottled off into hampers, containing ſeverally 3 dozen of quart bottles, and 2 dozen of pint bottles, how many hampers would there be of each ſort? *Anſ.* 21 of each.

No. 235. GREEK or TURKEY WINES. The wines ſo denominated come from Candia, Chios, Leſbos, Tenedos, and other iſlands of the Archipelago, which anciently belonged to the Greeks, but now to the Turks. The ancient poets were laviſh in praiſe of this wine. That of Leſbos is mentioned in Virgil's Georgics;

Nor

Nor our Italian vines produce the ſhape,
Or taſte, or flavour of the Leſbian grape.

And Horace, inviting his miſtreſs to his country ſeat, promiſes to entertain her with a glaſs of Leſbian, which he calls *innocent*, or *harmleſs*.

Lib. i. *Od.* 17.

The ſame poet alſo makes frequent mention of the wine of Chios, and Virgil takes notice of it in one of his Eclogues:

Two goblets will I crown with ſparkling wine,
The gen'rous vintage of the Chian vine;
Theſe will I pour to thee, and make the nectar thine.
DRYDEN.

Suppoſing each of the two goblets, mentioned by Virgil, to have contained a pint and three quarters, how many times might they both be filled out of a pipe of Chian wine? *Anſ.* 288 times.

No. 236. TOKAY. The ſame kind of grape, it has been obſerved, proves very different in taſte and flavour, according to the climate, and expoſure to the ſun. Tokay is an exquiſite Hungarian wine; and one particular ſort is the produce of a hill which directly fronts the ſouth, and is called from the peculiar ſweetneſs of its grapes, the ſugar-hill. This, ſays Neuman, affords the moſt delicious wine, and is appropriated to the ſole uſe of the imperial family; hence, perhaps, came the epithet "Imperial Tokay."

Tokay, or Tockay, is a ſtrong but inconſiderable town in Upper Hungary, only noted for its wine.

How many caſes, each holding a dozen of half-pint bottles, could be filled out of half an hogſhead of Tokay wine? *Anſ.* 42 caſes.

No. 237. CLARET. Claret, or clairet, *pale-red*, is a name given by the French to ſuch of their red wines as are not of a deep or high colour. The word is a diminutive of *clair*, *bright*, *tranſparent*.

Lord Cheſterfield, in his celebrated letters to his ſon, informs him, that claret comes from BOURDEAUX; a teſtimony confirmed by the authors of the Ency. Brit. who affirm, that the country adjacent to this city not only produces the fineſt clarets, but, at the ſeaſon of the vintage, forms one of the moſt delicious landſcapes in the world.

Mr. Townſend ſays, that a generous wine, produced near Alcala in Spain, is much uſed for enriching the poorer wines in the neighbourhood of Bourdeaux, for the purpoſe of making claret.

Journey, *vol.* iii. *p.* 302.

Bourdeaux, in the department of Gironde, and late province of Guienne, is an ancient, large, handſome, and rich town, ſituated on the beautiful river Garonne. A hundred thouſand tuns of wine and brandy are ſaid to be exported annually from Bourdeaux.

Suppoſing

Suppoſing three-fourths of the above quantity to be claret, how many hampers, each containing three dozen quart bottles, could be filled out of it? *Anſ.* 2,100,000 hampers.

No. 238. SCHIRAS WINE. Schiras is generally eſteemed the ſecond city of Perſia; Iſpahan being conſidered as the capital: though colonel Capper, who was in that country in 1778, aſſures us, that the ſeat of government was transferred the ſame year from the latter to the former city. The city of Schiras, on account of the number of ingenious and learned men born in it, has been denominated the *Athens of Perſia*. The wine of Schiras is not only the beſt in Perſia, but, as ſome think, in the whole world. It is ſo potent as to admit two-thirds of water without ſpoiling the taſte.

Alexander the Great, of whom ſome account has been given in the 21ſt and 22d queſtions, died of intoxication at Babylon*, in the 33d year of his age. At his final drunken carouſal, though already in a ſtate of inebriation, he had the preſumption to empty the cup of Hercules, which, according to Rollin, held ſix bottles, at a ſingle draught.

Suppoſing each bottle to contain a pint and a half, how many times could this fatal cup have been filled from a pipe of Schiras wine? *Anſ.* 112 times.

No. 239. ANCIENT HOSPITALITY. The following character of the "hoſpitable, rich, and good AXYLUS†," as drawn by Homer, affords an admirable inſtance of ancient hoſpitality.

> In fair Ariſba's walls (his native place)
> He held his ſeat; a friend to human race.
> Faſt by the road, his ever-open door
> Oblig'd the wealthy, and relieved the poor.
>
> POPE'S HOMER.

This manner of keeping houſe near a frequented high-way, and relieving all travellers, is agreeable to that ancient hoſpitality which we now only read of. The patriarchs in the Old Teſtament ſat at their gates to ſee thoſe who paſſed by, and entreat them to enter into their houſes. This cordial manner of invitation is particularly deſcribed in the 18th and 19th chapters of Geneſis.

Diodorus Siculus informs us, that GALLIAS, of Agrigentum, in Sicily, having built ſeveral inns for the relief of ſtrangers, he appointed perſons at the gates to invite all who travelled to make uſe

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* This place has been noticed in the 13th queſtion.

† Axylus was a Trojan, and killed at the ſiege of Troy.

> Breathleſs the good man fell, and by his ſide
> His faithful ſervant, old Caleſius dy'd.
>
> POPE'S HOMER.

of

of them; and that this example was followed by many others, who were inclined, after the ancient manner, to live in a humane and beneficent correſpondence with mankind.

Gallias entertained and clothed at one time no leſs than 500 horſemen; and there were in his cellars 300 veſſels, each of which contained 100 hogſheads of wine. How many pints are in that quantity? *Anſ.* 15,120,000 pints.

ALE AND BEER MEASURE.

Ale and beer are fermented liquors obtained from an infuſion of malt; the former differing from the latter chiefly in having a leſs proportion of hops. This liquor, the natural ſubſtitute of wine, in countries that could not produce the grape, was originally made in Egypt, the firſt-planted kingdom, on the diſperſion from the Eaſt, which was ſuppoſed unable to produce grapes. And as the Noachian colonies penetrated farther into the weſt, they found, or thought they found, the ſame defect, and ſupplied it in the ſame manner. Thus the natives of Spain, the inhabitants of France, and the aborigines of Britain, all uſed an infuſion of barley for their ordinary liquor: and it was called by various names, all literally importing only *the ſtrong water.* The ancient Britons and other Celtic nations ſometimes made their ale of wheat, oats, and millet. This was the favourite liquor of the Anglo-Saxons and Danes, as it had been of their anceſtors, the ancient Germans.

Before their converſion to Chriſtianity, they believed that drinking large and frequent draughts of ale was one of the chief felicities, which thoſe heroes enjoyed who were admitted into the hall of Odin.

See the Ency. Brit. art. Ale.

To heighten the enjoyment they were moreover aſſured, that their favourite beverage ſhould be drank out of the ſculls of their enemies.

No. 240. ALE. Ale is made by infuſing malt in hot water, and then fermenting the liquor by the application of barm or yeaſt. Hops are alſo an eſſential ingredient. *See Queſtion* 180.

There are various ſorts of ale known in Britain, particularly *pale* and *brown:* the former is brewed from malt ſlightly dried; and is eſteemed more viſcid than the latter, which is made from malt more highly dried. Many places in England are famous for the excellency of their ale, particularly Dorcheſter in Dorſetſhire, and Burton in Staffordſhire. The ale of this laſt county is by ſome deemed incomparable,

parable, and great quantities of it are ſent down the Trent to Hull, and exported to other parts of the kingdom, and abroad.

Ale is of ſo great antiquity in this kingdom, that in the year 1492, we meet with a licence from Henry VII. to a Fleming, to export fifty tons of this liquor.

Cyclop. art. Beer.

Suppoſing a ton of ale to contain four hogſheads, how many firkins, quarts, and pints, are in the above mentioned quantity? *Anſ.* 1,200 firkins; 38,400 quarts; 76,800 pints.

No. 241. BEER. Beer, like ale, as we have before obſerved, is a liquor made of malt and hops. It is, however, diſtinguiſhed from ale, either by being older, ſtronger, or ſmaller.

The following phraſe denotes, we preſume, beer of ſuperior potency.

Here's a pot of good *double beer*, neighbour; drink.

SHAKESPEARE.

Old or ſtrong beer is ſometimes called by the cant word, *Stingo*. It is moreover deſignated by the term *October*; becauſe that month is held to be peculiarly propitious to the brewing of this grateful beverage.

Nor wanting is the brown OCTOBER, drawn,
Mature and perfect, from his dark retreat
Of *thirty years*: and now his honeſt front
Flames in the light refulgent, not afraid
Even with the vineyard's beſt produce to vie.

THOMSON.

The Britiſh beer is ſaid to be ſuperior to that of other countries, even of Bremen, Mons, and Roſtoch.

Soon after the commencement of the ill-fated American war, two brewers agreed to ſupply government with 10,000 butts of ſtrong beer, for the uſe of our troops in Boſton, the capital of New England. How many pints were in that quantity? *Anſ.* 8,640,000 pints.

No. 242. SPRUCE-BEER. This is a kind of diet drink made by infuſion or coction of the leaves and ſmall branches of the black and white ſpruce-fir, and reckoned antiſcorbutic. It is much drank in America.

In as many butts of ſpruce-beer as there are calendar months in a year, as many hogſheads as there are weeks in a year, and as many firkins as there are days in a year, how many pints? *Anſ.* 59,112 pints.

No. 243. CAPACIOUS CASKS. The late Mr. Boſwell, in his Journal, relates, that Dr. Johnſon once mentioned that his friend Thrale, the brewer, had four caſks ſo large that each of them held 1,000 hogſheads. The public prints inform us, that Mr. Meux is now building

building a vat which, when finiſhed, will contain 20,000 barrels of porter.

How many gallons, quarts, and pints of beer, will the vat contain more than the caſks? *Anſ.* 504,000 gallons; 2,016,000 quarts; 4,032,000 pints.

No. 244. PORTER. This is a kind of malt liquor, which differs from ale and pale beer in its being made with high dried malt. Dr. Aſh, in his Engliſh Dictionary, ſays, that it obtained this appellation from being much drank by porters in the city of London.

By a ſtatement given, in ſeveral periodical publications, it appears, that from Midſummer 1788, to the ſame period in 1789, there were brewed in the metropolis, and its environs, 705,625 barrels of porter. Meſſrs. Whitbreads, Thrale's, the Calverts, Trueman's, and Giffard's brew-houſes, are generally deemed the moſt eminent in London. A great quantity of porter is brewed annually at Worceſter, and ſent to different parts by means of the river Severn. Much of the London porter is exported to the Weſt-Indies in bottles.

Suppoſe the 125th part of the porter mentioned in this queſtion were bottled off into hampers, each containing 3 dozen quart bottles, how many would there be? *Anſ.* 22,580 hampers.

T I M E.

Time is defined to be a ſucceſſion of phenomena in the univerſe, or a mode of duration, marked by certain periods and meaſures, chiefly by the motion and revolution of the ſun. The idea of time in general, we acquire, as Mr. Locke obſerves, by conſidering any part of infinite duration, as ſet out by periodical meaſures. The idea of any particular time, or length of duration, as a day, an hour, &c. we acquire firſt by obſerving certain appearances at regular, and, ſeemingly, equidiſtant periods.

Some authors diſtinguiſh time into aſtronomical and civil: the former being that taken purely from the motion of the heavenly bodies, without any other regard. The latter is aſtronomical time, accommodated to civil uſes, and formed and diſtinguiſhed into years, months, days, &c. Time makes the ſubject of CHRONOLOGY.

No. 245. EPITAPH. An epitaph is a monumental inſcription, in honour or memory of a perſon deceaſed. It has been diſputed, whether the ancient Jews inſcribed epitaphs on the monuments of the dead; but be this as it may, epitaphs it is certain, of very ancient date, are found amongſt them.

The Athenians, by way of epitaph, put only the name of the dead, with the epithet "good," or "hero," and a word expreſſive of their good wiſhes to the defunct. The Lacedemonians allowed epitaphs to none but thoſe who had died in battle. The Romans inſcribed their epitaphs to the *manes*, *diis manibus*.

The epitaphs of the preſent day are generally crammed with fulſome compliments which were never merited, characters which human nature in its beſt ſtate could ſcarcely lay claim to, and expreſſions of reſpect which were never paid in the life-time of the deceaſed. Hence the French proverb, with great propriety, took its riſe; *Menteur comme une épitaphe:* He lies like an epitaph.

The following epitaph is the ſimple chronicle of an extraordinary man, and as well told, perhaps, as many of the lofty and pompous inſcriptions in the abbey of Weſtminſter.

Beneath this ſtone, in ſound repoſe,
Lies William Rich, of Lydeard-Cloſe;
Eight wives he had, yet none ſurvive,
And likewiſe children eight times five;
Of great-grand-children five times four.
Rich born, rich bred, but Fate adverſe
His wealth and fortune did reverſe.
He lived and died immenſely poor,
July the 10th, aged ninety-four.

How many moments did the ſubject of this epitaph exiſt; reckoning 365 days, 6 hours, to the year? *Anſ.* 2,966,414,400 moments.

No. 246. ENOCH'S TRANSLATION. When Enoch, whom Milton ſtyles

The only righteous in a world perverſe,

had ſojourned upon earth as many years as the year has days, he was tranſlated to heaven, there, according to the ſame great poet,

To walk with God
High in ſalvation, and the climes of bliſs,
Exempt from death; to ſhew us what reward
Awaits the good.

How many months, weeks, days, and hours, did Enoch inhabit our planet, reckoning 13 months, 1 day, 6 hours to the year? *Anſ.* 4,745 months, 18,980 weeks, 133,225 days, 3,199,590 hours.

No. 247. ANTEDILUVIAN LONGEVITY. The term antediluvians is a general name for all mankind who lived before the flood, and ſo includes the whole human race from Adam to Noah and his family.

One of the moſt extraordinary circumſtances, which occurs in the antediluvian hiſtory, is the vaſt length of human lives in thoſe firſt ages,

ages, in compariſon with our own. Few perſons now arrive to 80 or 100 years; whereas, prior to the flood, they frequently lived to near 1,000: a diſproportion almoſt incredible, if it were not ſupported by the joint teſtimonies of ſacred and profane writers. For ſuch a conſtitution, however, various moral and natural reaſons are aſſigned, which we have not here room to inſert. The oldeſt of the antediluvian patriarchs was METHUSELAH, who lived 969 years.

See a Chronological Table on this Subject in the Ency. Brit. art. Antediluvians.

How many hours did Methuſelah exiſt? *Anſ.* 8,494,254 hours.

No. 248. POSTDILUVIAN LONGEVITY. Poſtdiluvians are perſons who have lived ſince the deluge. From the different longevities of men in the beginning of the world, after the flood, and in theſe ages, Mr. Derham draws a good argument for the interpoſition of a Divine Providence.

Immediately after the creation, when the world was to be peopled by one man and woman, the ordinary age was upwards of nine hundred years. Immediately after the flood, when there were three perſons to ſtock the world, their age was cut ſhorter, and none of thoſe patriarchs, excepting Shem, arrived at 500. In the ſecond century we find none that reached 240; in the third, none but Terah, that came to 200 years; a part of the world being at that period ſo well peopled, that they built cities. By degrees, as the number of people increaſed, their longevity decreaſed, till it came down, at length, to 70 or 80 years; and there it ſtood, and has continued to ſtand, ever ſince the time of Moſes. And by this means the world is neither overſtocked, nor kept too thin; but life and death keep a nearly equal pace.

That the common duration of man's life has been the ſame in all ages ſince the world was peopled, is plain, both from ſacred and profane hiſtory. To paſs by others, Plato lived to 81, and was accounted an old man: and the inſtances of longevity mentioned by Pliny as very extraordinary, may moſt of them be paralleled in modern hiſtories, particularly in Dr. Plott's Nat. Hiſt. of Oxfordſhire and Staffordſhire.

In the year 1670 died Henry Jenkins, who deſerves to be remembered on account of his very uncommon age. He was a poor fiſherman of Yorkſhire, born in 1501, and lived in the reigns of eight kings and queens of England. He was 169 years old at his death, exceeding the famous Thomas Parr, who died in 1635, full ſeventeen years.

What was the age of Parr at his deceaſe; what year gave him birth; and how many moments did his whole period of exiſtence fall ſhort of that of Jenkins? *Anſ.* Age of Parr 152 years; year of his birth 1483; and the difference of the moments they lived 536,479,200.

No. 249.

No. 249. Brevity of Life.

Let no fond hopes, my friend! beguile
Thine eyes from life's contracted ſpan;
Nor, ſooth'd by fortune's flattering ſmile,
Deem long the longeſt date of man.
HORACE, by Mr. WAKEFIELD.

In life, ſays Dr. Johnſon, is not to be counted the ignorance of infancy, or imbecility of age. We are long before we are able to think, and we ſoon ceaſe from the power of acting. The true period of human exiſtence may, therefore, he ſubjoins, be reaſonably eſtimated at forty years. Well may we then exclaim with the "Britiſh Homer,"

The time of life is ſhort!
To ſpend that ſhortneſs baſely were too long,
Tho' life did ride upon a dial's point
Still ending at th' arrival of an hour.

A fatal forgetfulneſs of the fragility of human life has conſtantly pervaded the majority of mankind. Not only in the ſlumber of ſloth, but in the diſſipation of ill-directed induſtry, is the ſhortneſs of life generally forgotten. A few, however, of the wiſeſt and beſt of men have been diſtinguiſhed for the well-ordered and conſcientious diſtribution of their time. Of this happy number was our juſtly celebrated Alfred the Great,

"Lov'd for that valour which preſerves mankind."

This illuſtrious monarch divided that invaluable treaſure into three different portions, allotting one to ſleep, meals, and exerciſe; and devoting the other two to writing, reading, buſineſs, and prayer.

Suppoſing the term of years mentioned by Dr. Johnſon were divided in king Alfred's judicious manner, how many hours would the portion allotted to energetic action contain; reckoning 365 days 6 hours to the year? *Anſ.* 233,760 hours.

No. 250. Early Riſing.

"Riſe, light thy candle, ſee thy taſk begun
"E'er redd'ning ſtreaks proclaim the diſtant ſun."

Perſons, not accuſtomed to accuracy and minuteneſs of calculation, will learn with ſurpriſe the vaſt ſpace of time gained by moderation in ſleep, or, in other words, how conſiderably early riſing will extend life in a given number of years. The advantages of this habit muſt, indeed, be very numerous: ſince, as the pious Hervey obſerves, divine and human wiſdom, the ſcriptures and the claſſics, are found to concur in frequent recommendations of it. Not to advert to ſolitary paſſages to this effect in other books of holy writ, ſeveral of Solomon's proverbs, while inveighing againſt ſloth, or extolling diligence, make the time ſpent in the repoſe of ſleep, the principal evidence of the former

former vice, or teſt of the latter excellence. Our own poets alſo have been glowing and energetic on this moſt intereſting topic. See particularly Milton's Paradiſe Loſt. The following exquiſite lines are taken from Thomſon's Summer.

Falſely luxurious, will not man awake,
And, ſpringing from the bed of ſloth, enjoy
The cool, the fragrant, and the ſilent hour,
To meditation due and ſacred ſong?
For is there ought in ſleep can charm the wiſe?
To lie in dead oblivion, loſing half
The fleeting moments of too ſhort a life,
Total extinction of th' enlightened ſoul!
Or elſe to feveriſh vanity alive,
Wilder'd, and toſſing thro' diſtemper'd dreams?
Who would in ſuch a gloomy ſtate remain
Longer than nature craves, when every muſe
And every blooming pleaſure wait without,
To bleſs the wildly-devious morning-walk.

"Early riſing, ſays a writer diſtinguiſhed for his erudition, has been the conſtant object of my attention: and it is, indeed, a powerful preſervative from vice, a ſpur to induſtry and order; and conſtitutes the moſt valuable recommendation that literature can boaſt. I wiſh my advice, and imperfect experience of its benefits, could perſuade every youth to engrave it, in impreſſions not to be effaced, on the tablet of his heart, and exemplify it in his daily practice!"

Mr. WAKEFIELD's *Memoirs*, p. 140.

The late eminent Dr. Doddridge, author of many excellent writings, in which his pious, benevolent, and indefatigable zeal, to make mankind wiſe, good, and happy, is conſpicuouſly manifeſted, aſcribes their production principally, if not entirely, to the habit of riſing early.

How much time, in the courſe of 40 years, does a perſon, who riſes at five o'clock in the morning, gain over another, who continues in bed till ſeven, ſuppoſing them both to go to reſt at the ſame hour at night? *Anſ.* 29,200 hours; or 3 years, 121 days, and 16 hours; which reckoning only 365 days to the year, are exactly equivalent to the addition of 10 years to a man's life, of which (ſuppoſing the two hours in queſtion to be ſo ſpent) eight hours every day ſhould be employed in ſtudy and devotion.

No. 251. NAVIGATION.

The Heaven conducted prow
Of navigation bold, doth fearleſs brave
The burning line, and dare the wintry pole:
Mother ſevere of infinite delights.

THOMSON.

Navigation

Navigation is the art or act of ſailing, or conducting a veſſel from one place to another, in the ſafeſt, ſhorteſt, and moſt commodious way. The art of navigation has been exceedingly improved in modern times, both with regard to the veſſels themſelves, and the methods of working them. But the greateſt advantage, which the moderns have over the ancients, is from the mariner's compaſs, by which they are enabled to find their way with as great facility, in the midſt of an immeaſurable ocean, as the ancients could have done by creeping along the coaſt, and never going out of ſight of land.

Later times, more fortunate, have found
O'er oceans' open wave the ſureſt courſe.

The whole globe
Is now of commerce made the ſcene immenſe,
Which daring ſhips frequent, aſſociated
Like doves or ſwallows in th' ethereal flood,
Or, like the eagle, ſolitary ſeen.

DYER.

The ſtate of navigation, in ancient times, is well expreſſed in the ſubſequent lines.

Rude as their ſhips was navigation then,
No uſeful compaſs or meridian known;
Coaſting they kept the land within their ken,
And knew no North but when the pole-ſtar ſhone.

DRYDEN.

The mariner's compaſs conſiſts of a circular braſs box, containing a paper card with 32 points or diviſions, and a *magnetic* needle which always turns to the North, excepting a ſmall declination variable at different places. The magnet, or loadſtone, is a ſort of ferruginous ſtone, uſually found in iron mines. Various parts of the world produce them, but the beſt are brought from China and Bengal. The moſt diſtinguiſhing properties of the magnet are—its attracting iron, pointing to the poles of the world, and communicating theſe properties by touch, to iron. The ancients uſed the magnet in medicine; the moderns more happily employ it to conduct them in their voyages.

When from the boſom of the mine,
The magnet firſt to light was thrown,
Fair commerce hail'd the gift divine,
And, ſmiling, claim'd it for her own.
"My bark," ſhe ſaid, "this gem ſhall guide
"Thro' paths of ocean yet untried,
"While as my daring ſons explore
"Each rude, inhoſpitable ſhore,
"Mid defart ſands and ruthleſs ſkies,
"New ſeats of induſtry ſhall riſe,
"And culture wide extend his genial reign,
"Free as the ambient gale, and boundleſs as the main.

PYE.

The

The utility of this inſtrument is not confined entirely to the purpoſes of navigation; it being occaſionally uſed by travellers in croſſing ſandy deſarts, and other pathleſs ways.

> The trading caravans urge,
> Thro' dazzling ſnows, their dreary trackleſs road;
> By compaſs ſteering oft' from week to week,
> From month to month.
>
> DYER.

It has been much diſputed who was the inventor of the compaſs, but the honour is uſually aſcribed to FLAVIO DE GIOVIA, a native of Amalfi, an ancient commercial city in the kingdom of Naples.

Suppoſing this event to have taken place 15,526,339,200 moments ago, how many years has it been diſcovered this preſent year 1795; and what was the year of its diſcovery; reckoning in both queſtions 365 days 6 hours to the year? *Anſ.* 492 years the time it has been diſcovered; and the year 1303 was the era of its diſcovery.

No. 252. DEATH OF GENERAL WOLFE. This renowned Engliſh officer ſignalized himſelf by his valour and military ſkill upon many occaſions, and at length fell a victim to a moſt dangerous, but glorious and ſucceſsful enterprize, the conqueſt of Quebec, the capital of Canada, in North America. His death is thus related by Smollett. He ſtationed himſelf where the attack was moſt warm; and as he ſtood conſpicuous in the front of the line, he had been aimed at by the enemy's markſmen, and received a ſhot in the wriſt, which, however, did not oblige him to quit the field. Having wrapped a handkerchief round his hand, he continued giving orders without the leaſt emotion, and advanced at the head of the grenadiers, with their bayonets* fixed, when another ball unfortunately pierced the breaſt of this young hero, who fell in the arms of victory, juſt as the enemy gave way. When the fatal ball took place, General Wolfe, finding himſelf unable to ſtand, leaned upon the ſhoulder of a lieutenant, who ſat down for that purpoſe. The officer, ſeeing the French give way, exclaimed, "They run! they run!"—"Who run?" cried the gallant Wolfe, with great eagerneſs, when the lieutenant replied, "the French;"—"then," ſaid he, "I die happy." So ſaying, the hero expired in the 34th year of his age.

> "Short was his date, but deathleſs his renown."

A death more glorious, and attended with circumſtances more pictureſque and intereſting, as Mr. Belſham well obſerves, is no where to be found. The death of Epaminondas† only, to which that of Wolfe has been compared, ſeems to diſpute the pre-eminence! The death of

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* A bayonet is a ſhort ſword or dagger fixed at the end of a muſket. This military weapon was invented at Bayonne, in the department of the Lower Pyrenees, France; whence it derived its name. The firſt uſe of them in battle, according to Duſreſnoy, was in the year 1693.

† See queſtion the 19th.

General

General Wolfe happened 1,136,073,600 moments ago this preſent year 1795; how many years have elapſed between that period and the preſent, and what was the year of his demiſe, reckoning 365 days 6 hours to the year? *Anſ.* 36 years; and the year of his death was 1759.

No. 253. "THE PATRIOT OF THE WORLD." This glorious epithet has been applied with peculiar propriety to that celebrated philanthropiſt Mr. HOWARD, whoſe activity, ſays Mr. Polwhale, unchecked by danger, carried him half over the globe, to relieve the miſeries of mankind. Regardleſs of his health, his repoſe, and his ſafety, he traverſed inhoſpitable tracts, to mingle with barbarous multitudes; to plunge into the midſt of contagion! thither his noble fervor urged him—unterrified "by the arrow that flieth by day, or the peſtilence that walketh in darkneſs"—to viſit thoſe, who had no comforter!—to heal the broken-hearted; to proclaim liberty to the captives, and the opening of the priſon to them that are bound.

He, touch'd with human woe, redreſſive ſearch'd
Into the horrors of the gloomy jail,
Unpitied, and unheard, where miſery moans,
Where ſickneſs pines, where thirſt and hunger burn,
And poor misfortune feels the laſh of vice*.

THOMSON.

To enter the dwellings of the wretched, to examine debts, and wants, and diſeaſes; to endure loathſome ſights and ſmells, within the ſphere of infection; to give time, and thought, and hands, and money—this, obſerves an ingenious writer, is the *ſubſtance* not the *ſhadow* of VIRTUE. This "friend to every clime" fell a victim to his indefatigable humanity, January 20, 1790, in the 65th year of his age, at CHERSON, the capital of New Ruſſia, ſituated on the river Nieper, about 50 miles E. of Oczakow. How many moments have elapſed from the time of Mr. Howard's death to the ſame period in the preſent year 1795? *Anſ.* 157,788,000 moments.

No. 254. DEATH OF CAPTAIN COOK. This conſummate ſeaman was a native of Marton, a village in the north riding of Yorkſhire, where he was born October 27, 1728. His nautical talents are allowed to have been unequalled. Not his own country only, but all Europe has borne teſtimony to his merit. Such was the ardour of his zeal, that he thrice circumnavigated the globe, explored the utmoſt navigable limits of the ocean, and cheerfully ſuſtained the tropical heat and the polar cold.

His dauntleſs breaſt did brave
The ſcorch'd equator, and th' antarctic wave;
Climes, where fierce ſuns in cloudleſs ardours ſhine,

* It hath been excellently remarked by a celebrated author, that if miſery be the effect of virtue it ought to be reverenced; if of ill-fortune, to be pitied; and if of vice, not to be inſulted, becauſe it is perhaps itſelf a puniſhment, adequate to the crime by which it was produced.

And

And pour the dazzling deluge round the line;
The realms of froſt, where icy mountains riſe,
Mid the pale ſummer of the polar ſkies.

Miſs SEWARD.

This illuſtrious navigator at length fell a ſacrifice to the momentary fury of an obſcure ſavage,

"Far from his friends, and from his native ſhore."

But his name will be held in honour, and recited with applauſe, ſo long as the records of human events ſhall continue in the earth: nor is it poſſible, as Dr. Kippis obſerves, to ſay, what may be the influence and rewards, which, in other worlds, ſhall be found to attend upon eminent examples of wiſdom and of virtue.

The death of Captain Cook happened at OWHYHEE, one of the Sandwich iſlands, 504,921,600 moments ago, this preſent year 1795; how many years have elapſed ſince this melancholy cataſtrophe took place, and what was the year of his deceaſe? *Anſ.* 16 years; and 1779 the year of his demiſe. *N. B.* Captain Cook was killed on Sunday the 14th of Feb. at eight o'clock in the morning.

No. 255. PEACE. Peace is at once the mother and the nurſe of all that is good for man; it ſhines upon human affairs like the vernal ſun.

ERASMUS.

Oh! firſt of human bleſſings and ſupreme,
Fair PEACE! how lovely, how delightful thou!
By whoſe wide tie the kindred ſons of men
Like brothers live, in amity combin'd,
And unſuſpicious faith; while honeſt toil
Gives every joy, and to thoſe joys a right,
Which idle barbarous rapine but uſurps.
Oh, PEACE! thou ſource and ſoul of ſocial life,
Beneath whoſe calm inſpiring influence
Science his views enlarges, art refines,
And ſwelling commerce opens all her ports:
Bleſt be the man divine who gives us thee!
Who bids the trumpet huſh his horrid clang,
Nor blow the giddy nations into rage:
Who ſheaths the murderous blade; the deadly gun
Into the well-pil'd armoury returns!
And, every vigour from the work of death
To grateful induſtry converting, makes
The country flouriſh, and the city ſmile.

THOMSON.

Some of the principal places at which treaties of pacification have been concluded, are Munſter, in 1648; Nimeguen, in 1679; Ryſwicke, in 1697; Utrecht, in 1713; and Aix la Chapelle, in 1748. How many years, months, weeks, days, hours, minutes, and moments, have intervened between the laſt-mentioned period and the preſent year 1795, reckoning 13 months, 1 day, 6 hours to the year?

Anſ. 47 years, 611 months, 2,444 weeks, 17,155 days, 412,002 hours, 24,720,120 minutes, 1,483,207,200 moments.

No. 256. WAR. War has been juſtly called "The malady which infects princes." There is nothing, ſays the truly great and good ERASMUS, more unnaturally wicked, more productive of miſery, more extenſively deſtructive, more obſtinate in miſchief, more unworthy of MAN as formed by nature, much more of MAN PROFESSING CHRISTIANITY, than WAR. This *common misfortune of the world* cauſes a ſuſpenſion of commerce, a decay of wealth, an increaſe of taxes, a ſtate of impatience, anxiety, and diſcontent; multiplies houſes of mourning, and fills a country with robbers, thieves, and violators of innocence. The flocks are ſcattered, the harveſt trampled, the huſbandman butchered, villas and villages burnt, cities and ſtates, that have been ages riſing to their flouriſhing ſtate ſubverted, and all places reſound with the voice of lamentation. But none of theſe things appear to enter into the conſideration of ambitious deſpots. They ſeem not in the leaſt affected by

> The widows' tears, the orphans cries,
> The dead men's blood, the pining maiden's groans,
> For huſbands, fathers, and betrothed lovers,
> That are ſwallowed in their controverſies.
>
> SHAKESPEARE.

Moſt of the *brutes*, as Eraſmus obſerves, live in concord with their *own kind*, move together in flocks, and defend each other by mutual aſſiſtance. Indeed, all kinds of brutes are not inclined to *fight* even their enemies. There are harmleſs ones like the hare. It is only the *fierceſt*, ſuch as lions, wolves, and tigers, that fight at all. A dog will not devour his own ſpecies; lions, with all their fierceneſs, are *quiet among themſelves*; dragons are ſaid to live in peace with dragons; and even venomous creatures live with one another in perfect harmony. —But to MAN, no wild beaſt is more deſtructive than his fellow MAN.

> Hear it not, ye ſtars!
> And thou, pale moon! turn paler at the ſound;
> Man is to man the ſoreſt, ſureſt ill.
>
> YOUNG.

View, ſays Eraſmus, with the eyes of your imagination, ſavage troops of men, horrible in their very viſages and voices;* men, clad in ſteel, drawn up on every ſide in battle array, armed with weapons, frightful in their craſh and their very glitter; mark the horrid murmur of the confuſed multitude,—their threatening eye-balls, the harſh

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* When the blaſt of war blows in your ears,
Then imitate the actions of the tyger;—
Stiffen the ſinews, ſummon up the blood,
Diſguiſe fair nature with hard-favour'd rage;
And lend the eye a terrible aſpect:
Set the teeth, and ſtretch the noſtrils wide;
Hold hard the breath, and bend up every ſpirit
To his full height.
SHAKESPEARE.

jarring

jarring din of drums and clarions, the terrific ſound of the trumpet, the thunder of the cannon, a noiſe not leſs *formidable than the real thunder of heaven*, and MORE HURTFUL; a mad ſhout like that of the ſhrieks of bedlamites, a furious onſet, a cruel *butchering* of each other! —ſee the *ſlaughtered* and the *ſlaughtering!*—heaps of dead bodies, fields flowing with blood, rivers reddened with human gore! ſo deep is the tragedy, continues this illuſtrious writer, that the boſom ſhudders even at the feeble deſcription of it, and the hand of humanity drops the pencil while it paints the ſcene.

See Dr. KNOX's *Antipolemus.*

The horrors of a field of battle after the butchering is over, are well deſcribed in the following lines.

O'erſpread with ſhatter'd arms the ground appears,
With broken bucklers, and with ſhiver'd ſpears.
Here ſwords are ſtuck in hapleſs warriors kill'd,
And uſeleſs there are ſcatter'd o'er the field.
Here, on their face, the breathleſs bodies lie;
There turn their ghaſtly features to the ſky.
Beſide his lord the courſer preſs'd the plain;
Beſide his ſlaughter'd friend the friend is ſlain;
Foe near to foe; and on the vanquiſh'd ſpread
The victor lies; the living on the dead!
An undiſtinguiſh'd din is heard around,
Mixt is the murmur, and confus'd the ſound:
The threats of anger, and the ſoldiers' cry,
The groans of thoſe that fall, and thoſe that die.

HOOLE's *Taſſo.*

The unfortunate war which England maintained with America, a country which, during the unhappy conteſt, the celebrated Earl of Chatham emphatically ſtyled "the glorious aſylum of LIBERTY, of MANLINESS, and of VIRTUE," continued nearly 252,460,800 moments. How many years did it laſt? *Anſ.* 8 years. *See on the ſubject of America, queſtion* 216.

No. 257. GOOD KINGS.

A tender monarch, like a ſhepherd ſwain,
Humane in counſels, in deſigns humane,
For public good alone prolongs his days,
And counts his years by deeds deſerving praiſe:
Wreaths ſtain'd with blood he nobly ſcorns to wear;
But to his virtues future glory owes;
Such was that ancient, that heroic pair,
AURELIUS, TITUS*, thus to deathleſs honours roſe.

The late king of Pruſſia!

Titus has been dead 15,024,924 hours this preſent year, 1795: how long has that event taken place, and what was the year of his demiſe, reckoning 8766 hours to the year? *Anſ.* His death happened 1714 years ago; and the year 81 was the period of his deceaſe.

* See the 36th queſtion.

No. 258. DEATH OF LORD RUSSEL. In the illuſtrious roll of martyrs to the cauſe of liberty, no name, ſays Mr. Belſham, ſtands more conſpicuouſly diſtinguiſhed, or is written in fairer characters, than that of Lord RUSSEL, whoſe patriotiſm appears unſullied with any baſe alloy of perſonal reſentment or intereſt.—So long as ſenſibility and gratitude are numbered amongſt the affections of the human heart, ſo long ſhall we reverence thoſe who have dared to die for their country; and, with an almoſt ſuperſtitious devotion,

"Kiſs with joy the ſacred earth
"That gave a HAMPDEN or a RUSSEL birth."

Lord Ruſſel was ſon of the duke of Bedford, and is univerſally ſpoken of as a nobleman of great and diſtinguiſhed virtue. He was, on trial, brought in guilty of high treaſon, for words only ſpoken in his hearing; a ſentence which was conſidered by all impartial men, as one of the moſt ſhameful inſtances of injuſtice ever known in England. It was pretended, that he was concerned in what is called the "Rye-Houſe plot;" ſuppoſed by many to have been only an artifice of the *alarmiſts* of thoſe days, to deſtroy the patriots. Lord Ruſſel was beheaded, or rather, as it has been remarked, *murdered*, July 21ſt, 1683, on a ſcaffold erected in Lincoln's-Inn-Fields. How many years and days have elapſed between that period and the current year 1795? reckoning 365 days 6 hours to the year. *Anſ.* 112 years, 40,908 days.

No. 259. THE SANGUINARY MARY. In the reign of this cruel bigot England was filled with ſcenes of horror, which have ever ſince rendered the popiſh religion an object of great deteſtation; and which prove, ſays Hume, that no human depravity can equal revenge and cruelty, covered with the mantle of religion.

It is computed, that during the three years which theſe ſhocking violences and barbarities were carried on, there were 277 perſons brought to the ſtake; beſides thoſe who were puniſhed by impriſonment, fines, and confiſcations. Among thoſe who ſuffered by fire were 5 biſhops, 21 clergymen, 8 lay gentlemen, 84 tradeſmen, 100 huſbandmen, ſervants, and labourers, 55 women, and four children. The unprincipled wretches employed by the bloody queen on theſe occaſions, were the biſhops GARDINER and BONNER. The latter eſpecially, was a man of profligate manners, and a brutal character, who ſeemed to rejoice in the torments of the unhappy ſufferers.

When perſecuting zeal made royal ſport
With tortur'd innocence in MARY's court,
Then BONNER, blithe as ſhepherd at a wake,
Enjoy'd the ſhow, and danc'd about the ſtake.

COWPER.

It is well remarked by Hume, that human nature appears not, on any occaſion, ſo deteſtable, and at the ſame time ſo abſurd, as in religious perſecutions, which ſink men below infernal ſpirits in wickedneſs, and below the beaſts in folly. Very different was the conduct of the ancient *heathen* philoſophers:

They,

They, ever-candid, reaſon ſtill oppos'd
To reaſon, and, ſince virtue was their aim,
Each by ſure practice try'd to prove his way
The beſt. Then ſtood untouch'd the ſolid baſe
Of Liberty, the liberty of mind;
For *ſyſtems* yet, and *ſoul-enſlaving creeds*,
Slept with the *monſters* of ſucceeding times.
From *prieſtly* darkneſs ſprung th' enlightening arts
Of fire, and ſword, and rage, and horrid names.

THOMSON.

We cannot be particular in enumerating all the barbarities practiſed during the reign of Mary; but muſt refer our young readers to the hiſtories of England, contenting ourſelves with the bare mention of the renowned martyrs RIDLEY, and LATIMER; prelates celebrated for learning and virtue, who ſuffered death in the flames, with inflexible conſtancy.

Againſt ſuch cruelties
With inward conſolations recompens'd;
And each ſupported ſo, as did amaze
Their proudeſt perſecutors.

MILTON.

Theſe venerable proteſtant worthies received the honour of martyrdom 7,573,824,000 moments ago this preſent year 1795; how many years have intervened ſince; and in what year did the direful event take place? *Anſ.* 240 years ago; and the year 1555, the period in which it happened.

THE RULE OF THREE DIRECT

FROM its vaſt extent, both in common life, and the ſciences, is frequently called the GOLDEN RULE. It teaches, by having three terms given, to find a fourth that ſhall have the ſame proportion to the third, as the ſecond has to the firſt.

RULE.

Firſt. State the queſtion: that is, place the given numbers ſo that the firſt and third may be terms of ſuppoſition and demand, and the ſecond of the ſame kind as the anſwer required.

Secondly. Bring the firſt and third numbers into the ſame denomination, and the ſecond into the loweſt name mentioned.

Thirdly. Multiply the ſecond and third numbers together, and divide the product by the firſt, the quotient will be the anſwer to the queſtion in the ſame denomination as that in which the ſecond number was left.

EXAMPLES.

EXAMPLES.

No. 259. SPIKENARD. Spikenard is an odoriferous plant, abounding in the iſland of Java and other parts of the Eaſt-Indies. Its ointment was in high eſtimation among the ancients. The evangeliſt Mark, chap. xiv. ver. 3. relates, that while our Saviour ſat at table in the houſe of Simon the leper in Bethany, a village near Jeruſalem, a woman entered with an alabaſter pot of ointment of ſpikenard, which having broken, ſhe poured the contents on his head. Suppoſing a Roman denarius or penny to be worth 7½d of our money, what was the value of this unguent, which, ver. 5, was eſtimated at 300 ſuch pence? *Anſ.* £9 7*s.* 6*d.* ſterling.

N. B. Dr. Whitby has abundantly proved this to have been a different ſtory from that mentioned, Luke vii. 36, et ſeq.

No. 260. MEAD. This is a wholeſome, agreeable liquor, prepared of honey and water.

> He ſheers his over-burden'd ſheep;
> Or mead for cooling drink prepares,
> Of virgin honey * in the jars.
>
> DRYDEN.

Mead is a liquor of very ancient uſe in Britain, and ſome perſons deem the beſt ſort ſcarcely inferior to foreign wines. It is thought probable, that before the introduction of agriculture into our iſland, mead was the only ſtrong liquor known to its inhabitants; and it continued to be a favourite beverage among them and their poſterity, long after they had become acquainted with other liquors.

See the Ency. Brit. art. Feaſt.

If two gallons of mead be worth 4*s.* 9½*d.* what is the value of an hogſhead, wine meaſure? *Anſ.* £7 10*s.* 11¼*d.*

No. 261. METHEGLIN. Metheglin is a ſpecies of mead; prepared from honey boiled with water and fermented, and one of the moſt pleaſant and general drinks the northern parts of Europe afford, and much uſed among the ancient inhabitants.

> "The juice of bees, not Bacchus, here behold,
> "Which Britiſh bards were wont to quaff of old;
> "The berries of the grape with furies ſwell†,
> "But in the honeycomb the graces dwell."

If an hogſhead of Metheglin, wine meaſure, be worth £7 10*s.* 11¼*d.* what are the value of two gallons? *Anſ.* 4*s.* 9½*d.*

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* Virgin honey is that depoſited in clean new cells, which, when firſt formed, are of a pure white colour.

† Alluding to a ſaying which the Turks have, "That there lurk a devil in every "berry of the vine." The Mahometan religion prohibits the uſe of wine.

No. 262. HONEY. Honey is a ſweet vegetable juice, collected from the flowers of various plants, by "nature's confectioner" the "ſkilful BEE". Of the œconomy of theſe inſects, alike remarkable for induſtry and art, naturaliſts relate wonders. The moral virtues have been all, at one time or other, attributed to them; and they have been particularly celebrated for their prudence, induſtry, mutual affection, unity, loyalty, public ſpirit, ſobriety, and cleanlineſs. Certain it is, that the induſtry and activity of bees in their domeſtic labours afford a very inſtructive and amuſing ſpectacle; *all* are buſily engaged in their ſeveral departments; whilſt ſome are employed in gathering honey or wax, others repair rotten combs; others carry out the dead, and cleanſe the hives; others keep guard, upon the floor, &c.

And ſad-ey'd juſtice, with his ſurly hum,
Delivers o'er to executors pale
The *lazy yawning drone.*

————————So work the honey bees;
Creatures, that by a rule in nature teach
The art of order to a peopled kingdom.

SHAKESPEARE.

Theſe active and uſeful inſects have alſo been noticed by another of our great poets, who, after expatiating on the beautiful face of nature in ſpring, when the fields and meadows are

"Full of freſh verdure and unnumber'd flowers"—

ſubjoins, that

Here their delicious taſk the fervent bees,
In ſwarming millions, tend; around, athwart,
Thro' the ſoft air the buſy nations fly,
Cling to the bud, and with inſerted tube
Suck its pure eſſence, its ethereal ſoul;
And oft' with bolder wings they ſoaring dare
The purple heath, or where the wild thyme grows,
And yellow load them with the luſcious ſpoil.

THOMSON.

The honey of Hybla, on the eaſt coaſt of Sicily, and of Hymettus, a mountain of Greece, was reckoned by the ancients the beſt in the world.

Sweet as honey of Hybla.

SHAKESPEARE.

Hymettus ſpread, amid the ſcented ſky,
His thymy treaſures to the labouring bee.

THOMSON.

The honey of Minorca, an iſland in the Mediterranean; of Narbonne, in the department of Aude, and late province of Languedoc, is deemed excellent: and that of Hampſhire, is conſidered as the beſt produced in England. Honey, conſidered as a medicine, is a very uſeful detergent, and aperient, powerfully diſſolving viſcid juices, promoting

promoting expectoration, and, in ſome inſtances, has been remarkably efficacious in aſthmatic caſes. *See the Ency. Brit.*

The honey of Narbonne, ſays Mr. Townſend, is delicate in its flavour, and beautifully white! It was ſold in that city for fifteen pence a pound. *Journey through Spain*, &c. *vol.* i. *p.* 82.

What is the value of 2 cwt. 1 qr. 27 lb. 12 oz. 15 drams, of honey at the price above mentioned? *Anſ.* £17 9*s.* 9*d.* $\frac{33}{256}$.

No. 263. WOOL. Wool is the hair, or covering of ſheep; which, being waſhed, ſhorn, dreſſed, combed, ſpun, woven, &c. makes divers kinds of ſtuffs, cloths, &c. for apparel and furniture. Wool is very juſtly held to be the grand ſtaple commodity of this kingdom, ſince the annual value of exported goods of that manufacture is eſtimated at nearly £4,000,000 ſterling! Dr. Anderſon, in a memorial ſubjoined to the "Report of the Committee of the Highland Society," proves, from indiſputable records, that from the earlieſt times down to the reign of queen Elizabeth, the wool of Great-Britain was not only greatly ſuperior to that of Spain, but was accounted the fineſt in the univerſe; and that even in the times of the Romans, a manufacture of woollen cloths was eſtabliſhed at Wincheſter for the uſe of the emperors.

Thomſon, after deſcribing, in his uſual happy manner, the proceſs of ſheep-ſheering, exclaims

> A ſimple ſcene! yet hence BRITANNIA ſees
> Her ſolid grandeur riſe; hence ſhe commands
> Th' exalted ſtores of every brighter clime,
> The treaſures of the ſun without his rage:
> Hence, fervent all, with culture, toil and arts,
> Wide glows her land: her dreadful thunder, hence
> Rides o'er the waves ſublime, and awes the world.

Admitting, according to the loweſt computation, that England maintains 12,000,000 of ſheep, and eſtimating each fleece at 2*s.* 4$\frac{1}{4}$*d.* what is the yearly value of Engliſh wool? *Anſ.* £1,412,500.

No. 264. WOOLLEN MANUFACTURE. The woollen manufacture makes the principal article of our foreign and domeſtic trade. In 1769, and the two ſucceeding years, the value of woollens exported from England amounted to upwards of £13,000,000 ſterling.

ZIMMERMAN, *p.* 200.

> ——————Purſue,
> Ye ſons of Albion*! with unyielding heart,
> Your hardy labours: let the ſounding loom
> Mix with the melody of every vale;
> The loom, that long renown'd wide envy'd gift
> Of wealthy Flandria, who the boon receiv'd
> From fair Venetia; ſhe from Grecian nymphs;

* Albion was the ancient name of Great-Britain.

They

They from Phenicé, who obtain'd the dole
From old Egyptus. Thus around the globe
The golden-footed ſciences their path
Mark, like the ſun, enkindling life and joy,
And follow'd cloſe by ignorance and pride,
Lead day and night o'er realms. Our day aroſe
When ALVA's* tyranny the weaving arts
Drove from the fertile vallies of the Scheld.

DYER.

This important branch of commerce received conſiderable improvement in the reign of Edward III. by means of perſons whom that monarch invited from the Netherlands in the year 1331; but what contributed moſt of all to the perfection of this valuable manufacture, was the juſt-mentioned emigration of the Proteſtants from that country.

"Brethren, by impious perſecution driven,
"Who arm'd their breaſts with fortitude to try
"New climes beyond the baneful pow'r of tyrants."

Theſe fugitives, being well received by queen Elizabeth, eſtabliſhed ſeveral large manufactures at Norwich, Colcheſter, Sandwich, Southampton, &c. *See Rapin, vol.* vii. *p.* 322. alſo *vol.* xi. *p.* 321.

It is computed, that 1,500,000 people are employed in the Britiſh woollen manufacture. Now, ſuppoſing each of theſe to earn; one with another, 6d. per *working* day, how much will their labour amount to in a year? *Anſ.* £11,737,500.

No. 265. TEA. Tea is a plant or ſhrub indigenous to China in Aſia. It is a received opinion, that the green and bohea tea grows upon the ſame ſhrub; but that the latter admits of ſome kind of preparation, which removes its raking qualities, and gives it a deeper colour. This faſhionable commodity was firſt brought into Europe by the Dutch in 1610, and into England by lord Arlington and lord Oſſory from Holland about the year 1666, at which period it was ſold for 60*s.* a pound. But it appears, that before this time, the drinking of tea, even in public coffee-houſes, in this country was not uncommon; for in 1660, a duty of 8d. per gallon was laid on the liquor made from it, and ſold in all coffee-houſes. The preſent conſumption of tea is immenſe; it being computed by Zimmerman, in his political ſurvey of Europe, that there are no leſs than 189,000,000 lb. exported annually from China into Europe. This reſpectable writer is, however, ſuppoſed to be miſinformed in this particular, as perſons converſant in the tea trade affirm, that the Britannic kingdoms conſume nearly as much tea as all Europe beſides; and 20,000,000 lb. are conjectured to be the greateſt quantity yearly expended in the Britiſh dominions: of theſe, two millions are ſuppoſed to be ſmuggled, and

* The duke of Alva was appointed governor of the Netherlands by the tyrant Philip II. of Spain. During his adminiſtration, nothing was heard of but confiſcation, impriſonment, exile, torture, and death. And on his departure from that country in 1574, this unfeeling deſpot boaſted, that, during the courſe of five years, he had delivered above 18,000 perſons into the hands of the executioner.

Hume, vol. v. *p.* 217.

eighteen millions to be ſold by the Eaſt-India company. What is the value of the laſt-mentioned quantity, at only 5*s*. 9*d*. per lb? *Anſwer* £5,175,000.

No. 266. CHEESE. Cheeſe is a kind of food made by preſſing the curd of coagulated milk, and ſuffering the maſs to dry. Milk is coagulated by runnet, or rennet, a liquor made by ſteeping the maw or ſtomach of a calf in warm water, in which ſpices and aromatics have been previouſly infuſed. Bacon, in his Natural Hiſtory, obſerves, that the milk of the fig has the quality of rennet. *See queſtion* 71.

The too free uſe of cheeſe is condemned by phyſicians, who maintain, that it is a food fit only for the laborious, or thoſe whoſe organs of digeſtion are ſtrong. In England, cheeſe is made entirely from cow's milk: but in ſome places they make it of ewe's milk; and in others, a certain proportion of ewe or goat's milk is added to that of the cow. The Laplanders make a ſort of cheeſe of the milk of their rein-deer.

England has been long noted for the excellency of its cheeſe. Camden, and others, ſuppoſe, that we learnt the art of making it from the Romans. Chedder in Somerſetſhire, and Stilton in Huntingdonſhire, are famed for an exquiſite ſort; the latter being uſually called the *Parmeſan* of England, and ſells for fourteen or ſixteen pence per pound. Parma is a diſtrict in the north of Italy, renowned through all Europe for its excellent cheeſe, as our well-known ballad bears teſtimony:

"Let Lodi or Parmeſan bring up the rear."

Lodi is near the city of Parma, and the adjacent diſtrict is ſometimes denominated the Lodeſan.

Much of the cheeſe called *Stilton cheeſe*, is made in the neighbouring counties. The counties of Wilts, Glouceſter, Warwick, and Cheſhire, make immenſe quantities of cheeſe. From this laſt county Cheſter alone annually exports 22,000 tons, 14,000 of which are ſent to London. *Zimmerman, p.* 200.

Suppoſing the Cheſter cheeſe factors to receive $4\frac{1}{4}d.$ per lb. on an average, what is the value of the whole quantity exported? *Anſwer* £975,333 6*s*. 8*d*.

No. 267. CYDER, or CIDER, an excellent drink made of the juice of apples, eſpecially of the more curious table kinds.

The pippin, burniſh'd o'er with gold, the moyle,
Of ſweeteſt honey'd taſte, the fair permain,
Temper'd like comlieſt nymph with red and white.
See PHILIPS's *Cider, line* 460, &c.

Herefordſhire and Devonſhire are famous for cider; but much of that made in the latter county is of a harſh, ſour, and watery nature, to which qualities is commonly imputed a kind of ſevere colic prevalent among the lower claſs of people.

Dr. AIKIN's *England Delineated.*

The Herefordſhire cider is ſo exquiſite, that when the earl of Mancheſter was ambaſſador in France, he is ſaid frequently to have paſſed this beverage on their nobility for a delicious wine.

Some

Some ciders have by art or age unlearn'd
Their genuine reliſh, and of ſundry vines
Aſſum'd the flavour: one ſort counterfeits
The Spaniſh product; this to Gauls has ſeem'd
The ſparkling nectar of Champaign; with that
A German oft' has ſwill'd his throat, and ſworn
Deluded that imperial Rhine beſtow'd
The gen'rous rummer, whilſt the owner pleas'd
Laughs inly at his gueſts, thus entertain'd
With foreign vintage from his cider caſk.

PHILIPS.

There is a ſpirituous liquor drawn from cider by diſtillation, called cider-ſpirit, to which the dealers in ſpirits can give the flavour of ſome other kinds, and ſell it under the aſſumed names, or mix it in large proportion with foreign brandy, rum, or arrack, in the ſale, without any danger of a diſcovery of the cheat.

Cyclop. and Ency. Brit.

The beſt cider, of all the kinds, is ſaid to be that made from the red-ſtreak apple, grafted upon the gennet-moil ſtock.

Let ev'ry tree in ev'ry garden own
The redſtreak as ſupreme, whoſe pulpous fruit,
With gold irradiate and vermillion ſhines.
Hail Herefordian plant! that doſt diſdain
All other fields.

PHILIPS.

Other ciders have various degrees of potency, and a great variety of flavour.

———From Silurian* vats, high-ſparkling wines
Foam in tranſparent floods; ſome ſtrong, to cheer
The wint'ry revels of the labouring hind,
And taſteful ſome, to cool the ſummer-hours.

THOMSON.

If a hogſhead of cider containing 110 gallons† be purchaſed for £4 10*s.* 6*d.* and retailed at 1¼d. a pint, what would be gained by the ſale? *Anſ.* £1 17*s.* 10*d.*

No. 268. PERRY. Perry is a pleaſant beverage made from pears.

What tho' the pear-tree rival not the worth
Of Ariconian‡ products? yet her freight

* Herefordſhire formed a conſiderable part of the ancient Siluria.

† Cider is retailed by wine meaſure, but often bought in veſſels called hogſheads, which contain 110 or 112 gallons each.

‡ Ariconium was a ſpacious city in the time of the Romans. It is ſuppoſed to have been ſituated about 3 miles W. of Hereford, and to have been deſtroyed by an earthquake; a calamity particularly noticed by Philips, in his poem entitled "Cider," line 173, &c.

Is not contemn'd, yet her wide branching arms
Beſt ſcreen thy manſion from the fervent dog,
Adverſe to life. The wintry hurricanes
In vain employ their roar, her trunk unmov'd
Breaks the ſtrong onſet, and controls their rage;
Chiefly the Boſbury, whoſe large increaſe
Annual in ſumptuous banquets claims applauſe:
Thrice acceptable bev'rage! could but art
Subdue the floating lee, Pomona's ſelf
Would dread thy praiſe, and ſhun the dubious ſtrife.

PHILIPS.

If two hogſheads of perry, wine meaſure, were bought for £10 10*s.* and bottled off into quart bottles, how muſt they be ſold per dozen to gain £3 13*s.* 6*d.* by the ſale? *Anſ.* 6*s.* 9*d.* per dozen.

No. 269. BOOKS CONSUMED AT EPHESUS. A book is the general name of almoſt every literary compoſition; but, in a more limited ſenſe, is applied only to ſuch compoſitions as are large enough to make a volume. As to the origin of books, or writings, thoſe of Moſes are undoubtedly the moſt ancient that are extant. Of profane books, the oldeſt are Homer's poems. Several ſorts of materials were uſed formerly for making books: plates of lead and copper, the barks of trees, bricks, ſtone, and wood, were the firſt materials employed to engrave ſuch things upon as men were willing to have tranſmitted to poſterity. The leaves of the palm-tree and the Egyptian papyrus were afterwards uſed. By degrees wax, then leather was introduced, eſpecially the ſkins of goats and ſheep, of which, at length, parchment was prepared: then linen, ſilk, horn, and laſtly paper came into uſe. The firſt books were in the form of blocks and tables; but as flexible matter came to be wrote upon, it was found more convenient to make books in the form of rolls. Theſe were compoſed of ſeveral ſheets faſtened to each other, and rolled upon a ſtick; the whole making a kind of column or cylinder. *See on this ſubject the Cyclop. and Ency. Brit.*

Books have been termed the "remedies of the mind." The learned Dr. Parr, ſpeaking of his own library, ſoon after that of his friend, Dr. Prieſtley, had been deſtroyed by the ſavage fury of an ignorant and bigotted rabble, obſerves, that he collected his own books with indefatigable induſtry, and in their purchaſe had expended more than half the produce of more than twenty years unwearied labour; that he conſidered them as the pride of his youth, the employment of his riper age, and, perhaps, the beſt ſolace of declining life.

At the head of all the pleaſures which offer themſelves to the man of liberal education, ſays Dr. Aikin, may confidently be placed that derived from books. In variety, durablility, and facility of attainment, no other can ſtand in competition with it; and even in intenſity it is inferior to few. In books, we have the choiceſt thoughts of the ableſt men in their beſt dreſs. We can, at pleaſure, exclude dulneſs and impertinence, and open our doors to wit and good ſenſe alone.

Letters to his ſon, p. 290.

When

When the books of Labienus were burnt at Rome, he would not ſurvive their loſs, but ſhutting himſelf up in the tomb of his anceſtors, pined away, and was buried alive.

Dr. Johnſon adviſed young people never to be without a book in their pocket, to be read at bye-times when they had nothing elſe to do; obſerving at the ſame time, that much of his own knowledge had been thus obtained. A retentive memory, he ſubjoins, will do much, and a perſon will have ſtrange credit given him, if he can but recollect ſtriking paſſages from different books, and bring his ſtock of knowledge artfully into play.

Mrs. PIOZZI's *Anecd.*

With views probably ſimilar to thoſe of Dr. Johnſon, we find the Ethiopian eunuch making the beſt uſe of his time, by reading in his chariot, during a journey. *See Acts, chap.* viii.

In ſo illuſtrious and powerful a manner did Chriſtianity, at its firſt promulgation, flouriſh and triumph over all conſiderations of honour or intereſt; ſuch an amazing effect had it upon the lives and morals of its early converts, that they not only relinquiſhed their former abandoned purſuits, and forſook their ſenſual and immoral practices, but reſigned every domeſtic endearment, waved every ſecular advantage, and took joyfully the ſpoiling of their goods, whenever any of theſe came in competition with their duty. A ſtriking inſtance of the readineſs, with which ſacrifices were made at the altar of Chriſtianity, is afforded in the penitent ſorcerers of Epheſus, who, in conſequence of the preaching of St. Paul, and the miracles that God enabled him to work, brought all the books they had which treated of the idle and abſurd ſcience of magic, and publickly burnt them. The value of theſe books was no leſs than 50,000 pieces of ſilver,* which are computed by Dr. Benſon to be worth £7,500; by another critic £6,250; by Dr. Prideaux £1,875; by Arbuthnot £1,614 11*s.* 8*d.* and by Clark £1,500 ſterling. *See Dr. Doddridge's Fam. Exp. Pyle's Paraphraſe, and Clark's Annot. on the Bible*

What is the value of each piece of ſilver, according to theſe ſeveral calculations? *Anſ.* 3*s.*—2*s.* 6*d.*—9*d.*—7¾*d.*—7*d.* $\frac{4000}{30000}$.

No. 270. ROMAN LUXURY. It has been often remarked, that an hoſpitable and ſplendid table is highly commendable among the opulent; it indicates a greatneſs of mind, a becoming liberality of nature, and ſerves the cauſe of the poor and needy: but when feaſting degenerates into exceſſive luxury, and inſupportable expence, the authors never fail juſtly to incur the charges of prodigality and folly. To this kind of exceſs ſome of the ancient Romans were notoriouſly addicted, as appears from the following relation.

When the ſervants of LUCULLUS, a famous Roman commander, were appriſed of the apartment in which he deſigned to ſup, they regulated the order, quantity, quality, and expence of the banquet accordingly. The charges of an accidental entertainment, made by him

* See Acts xix. 19.

for

for CICERO and POMPEY, becauſe ordered in the *Apollo*, amounted to the enormous ſum of 50,000 drachmas; hence, *to ſup or dine in the Apollo*, has become a ſort of proverbial phraſe to denote a ſuperb entertainment, or an immoderately expenſive meal.

Valuing two drachmas at 1*s.* 1½*d.* what was expended in Lucullus's ſplendid ſupper? *Anſ.* £1,406 5*s.*

No. 271. SERVANTS. A Servant is a term of relation, ſignifying a perſon who owes and pays a *limited* obedience for a certain time to another, in quality of maſter, who is accountable for the conduct of his ſervant in the general courſe of buſineſs, whether he acts by expreſs or implied command. The kindneſs of the centurion, mentioned in Luke's goſpel, to his ſlave, and the anxiety he ſhewed to get him healed, was ſuitable to the character of a humane maſter, and exhibits an excellent pattern of duty, very proper for the imitation of Chriſtian maſters, among whom, ſays a commentator, it is but too common, to uſe their ſlaves and dependants as if they were not creatures of the ſame ſpecies with themſelves, but beings of an inferior order. The following obſervations of Dr. Johnſon, reſpecting menial domeſtics, ſeem to merit particular attention. "As it is at home that every man muſt be known by thoſe who would make a juſt eſtimate either of his virtue or felicity; for ſmiles and embroidery are alike occaſional, and the mind is often dreſſed for ſhow in painted honour and fictitious benevolence; and as the moſt authentic witneſſes of any man's character are thoſe who know him in his family, and ſee him without any reſtraint, or rule of conduct, but ſuch as he voluntarily preſcribes to himſelf; the higheſt panegyric that private virtue can receive is the PRAISE OF SERVANTS. For, however vanity or inſolence may look down with contempt on the ſuffrage of perſons undignified by wealth, and unenlightened by education, it very ſeldom happens that they commend or blame without juſtice." *Rambler, No.* 68. If a ſervant's wages be £12 12*s.* per annum, how much is that per week and per day? *Anſwer* 4*s.* 10*d.* $\frac{32}{52}$ and 8¼*d.* $\frac{51}{365}$ per day.

No. 272. BRANDY. Brandy is a ſpirituous and inflammable liquor, extracted from wine and other liquors* by diſtillation. The brandy made in France is eſteemed the beſt in Europe. The chief French brandies are thoſe of Bourdeaux, Rochelle, Cognac, or Cogniac, the iſle of Rhe, Orleans, Poictiers, Nantz, &c.

The too free uſe of brandy is attended with ill effects, as it attenuates the body, impairs the ſtrength, ſtupifies the brain, and, in ſome inſtances, ſhortens the duration of human exiſtence.

As in my youth I never did apply
Hot and rebellious liquors in my blood;
Therefore my age is as a luſty winter,
Froſty but kindly. SHAKESPEARE.

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* Mr. Conſett, in his Swediſh Tour, ſays, they make the low priced brandy in that country from rye and a ſpecies of ants; a large black inſect very plentiful there; and which the natives think highly palatable and pleaſant to eat.

In Virginia and Maryland peaches and apples afford brandy. That made from the former Mr. Cooper deems as fine a liquor as he ever taſted.

Information reſpecting America, p. 121.

The

The art of diſtilling brandy, and other ſpirits, was firſt brought into Europe by the Moors of Spain, about the year 1150. They learned it of the African Moors, who had it from the Egyptians; and theſe are ſaid to have practiſed it in the reign of the emperor Dioclefian, though it was unknown to the ancient Greeks and Romans.

The yearly export of brandies from France is ſaid to amount to 25,000 tons. What is the value of this quantity at 5*s*. 6½*d*. per gallon. *Anſ.* £1,745,625.

No. 273. RUM. Rum is a ſpecies of vinous ſpirit, drawn by diſtillation from ſugar-canes, or rather from melaſſes, or molaſſes, which are the dregs of ſugar. The word rum is the name it bears among the native Americans. Dr. Johnſon acknowledges his ignorance of its derivation.

The iſland of Jamaica alone, is ſaid to produce annually four millions of gallons of this liquor. What is their value at 3*s*. 9½*d*. per gallon? *Anſ.* £758,333 6*s*. 8*d*.

No. 274. SUGAR. Sugar is a very ſweet agreeable ſaline juice, expreſſed from a kind of canes, or reeds, growing in great plenty in the Eaſt and Weſt-Indies.

It is ſuppoſed, that ſugar was not known among the ancient Greeks and Romans, who uſed only honey for ſweetening; but this queſtion is not yet entirely decided among the learned, who are moreover divided concerning the country to which it was indigenous. Some ſay, that it came originally from China, by way of the Eaſt-Indies and Arabia into Europe; others aſſert, that the ſugar cane is as natural to America as India; while others maintain, that it was not known in America, till the Europeans tranſplanted it thither. According to the more prevalent opinion, ſugar had its origin in the eaſtern part of Aſia. From that continent it was tranſplanted to Cyprus; thence to Sicily; thence to Madeira and the Canary iſles; and from theſe laſt to Braſil, where, indeed, ſome ſuppoſe that ſugar was originally and ſpontaneouſly produced. About the year 1506 ſugar-canes were brought from Braſil and the Canaries, and planted in Hiſpaniola; and in 1641 they were tranſplanted from Braſil to Barbadoes, and thence to our Weſt-India iſles. Our anceſtors made uſe of ſugar, rough as it came from the cane; the boiling, baking, and refining of it being comparatively a modern invention.

To cultivate the ſugar-cane in the Weſt-Indies, the wretched Africans are torn from their native land, in defiance of every principle of religion, humanity, and juſtice. When the European kidnapping manufacturers of human woe land on their coaſt; not only parents are dragged from their families, and children from their parents; and the moſt endearing ties of friendſhip, attachment, and relationſhip burſt aſunder;

> "For bended knees, pure hands held up,
> Sad ſighs, deep groans, or ſilver-ſhedding tears,"

avail nothing with their ſanguinary invaders; but whole villages and towns are depopulated or burnt, and every ſpecies of terror, diſmay, and brutality, inſtantly pervades their unhappy country.

Tell,

Tell, if thou can'ſt, the ſum of ſorrows there;
Mark the fixt gaze, the wild and frenzied glare,
The racks of thought, and freezings of deſpair!

ROGERS's *Pleaſures of Memory.*

As ſoon as the traffickers in human gore have gotten their complement on board the ſhip, it immediately makes off; when many of the miſerable victims fall into ſuch deep grief and deſpair, that they languiſh, ſicken, and die in the paſſage: while others, ſcorning to ſurvive the loſs of liberty, embrace a voluntary death. But, gentle reader, "pauſe not here;"—behold the deſpairing ſurvivors tranſported

Beyond the weſtern wave,
Go, view the captive barter'd as a ſlave!
Cruſh'd till his high heroic ſpirit bleeds,
And from his nerveleſs frame indignantly recedes.

Pleaſures of Memory.

Arrived at the deſtined plantations, the day hardly dawns when the whip reſounds through thoſe regions of horror; nor ceaſes, till darkneſs cloſes the ſcene, which day after day is renewed, till at length the miſerable creatures expire beneath the laſh, which in vain endeavours to rouſe them to a renewal of their labour.

A celebrated French moraliſt well obſerves, that he cannot look on a piece of ſugar without conceiving it ſtained with ſpots of human blood: and Dr. Franklin very properly ſubjoins, that had he taken in all the conſequences of the ſlave trade, he might have ſeen the ſugar not merely ſpotted but dyed ſcarlet in grain. Well then might the benevolent Cowper put the following affecting interrogation into the mouth of his complaining negro:

Why did all-creating Nature
Make the plant for which we toil?
Sighs muſt fan it, tears muſt water,
Sweat of ours muſt dreſs the ſoil.

Think ye maſters iron-hearted,
Lolling at your jovial boards,
Think how many backs have ſmarted
For the ſweets your cane affords!

The Abbe Raynal computes that, at the time of his writing, 9,000,000 of ſlaves had been conſumed by the Europeans. Add 1,000,000 at leaſt ſince, for it is about ten years, ſays Mr. Cooper, who publiſhed letters on this ſubject in 1787. Recollecting then that for one ſlave procured, ten at leaſt are ſlaughtered, that a fifth die in the paſſage, and a third in the ſeaſoning, and the unexaggerated computation will turn out, that the infernal voracity of European avarice has been glutted with the murder of 180,000,000 of our fellow-creatures.

Letters on the Slave Trade, by T. COOPER, *Eſq. p.* 25.

The Engliſh, it appears, not only outrage humanity on their own account, but engage in this diſgraceful commerce to ſupply other nations.

tions. At Liverpool, the grand mart of this execrable trade, Dawſon and Baker recently agreed to furniſh 3,000 ſlaves annually to the Spaniſh iſlands, and upon this contract have received £300,000 for thoſe they have ſupplied.

Journey through Spain, by Mr. TOWNSEND, *vol.* ii. *p.* 381.

Noble and generous, though hitherto unſucceſsful efforts, have, however, been recently made in the Britiſh parliament, to effect an abolition of this deteſtable and inhuman commerce.

The iſland of Jamaica is ſaid to produce annually 70,000 tons of ſugar. What is their value at 19*s.* 4½*d.* per hundred weight? *Anſ.* £1,356,250.

No. 275. GOOSE. Gooſe, ſays Dr. Johnſon, is a large water fowl proverbially noted for fooliſhneſs. Tame geeſe are of vaſt longevity: an inſtance is mentioned of one that attained eighty years. Multitudes of tame geeſe are kept in the fens of Lincolnſhire; a ſingle perſon will keep a thouſand old geeſe, each of which will rear ſeven, ſo that towards the end of the ſeaſon he will become maſter of eight thouſand. The geeſe are plucked five times in the year: the firſt plucking, in purſuance of this barbarous practice, is at Lady-day, for feathers and quills; and the ſame is renewed, for feathers only, four times more between that and Michaelmas. The produce of theſe feather pluckings is ſo great, that there are frequently ſent away in one year from the town of Boſton, in this county, 300 bags of feathers, each containing 168 pounds; worth to the owner 2*d.* per pound. Each plucking affords about a pound.

Suppoſe the quantity of feathers, ſaid to have been ſent from Boſton, were bought at the price mentioned, conveyed to London at the expence of 1½*d.* per pound, and diſpoſed of there at 4¼*d.* per pound, what would the purchaſer gain by the ſale? *Anſ.* £262 10*s.*

No. 276. PEN. A pen is an inſtrument to write with, made of quills, taken from the wings of ravens, turkeys, peacocks, and geeſe. The gooſe-quill pens are generally made uſe of among us, and in the neighbouring countries; but in ſome parts of the world they write with reeds to this day, particularly the Turks, Moors, and eaſtern people. *See Maſſey on the Origin of Letters, p.* 68, 125.

The ſame author obſerves, that wherever the word *pen* occurs in our Engliſh tranſlation of the Old and New Teſtament, we muſt not underſtand it of a pen made of a quill, but of an *iron ſtyle*, or a *reed*, with which the ancients wrote. The former was ſharp at one end like a pointed needle, to write with, and at the other end blunt, and broad, to ſcratch out what was written, and not approved of, to be amended.

Gooſe-quill pens are ſuppoſed to have been in uſe among us between four and five hundred years.

Allatius, keeper of the Vatican library, who died at Rome in 1669, had a very extraordinary pen, with which, and no other, he wrote Greek for 40 years; and having loſt it, he was ſo grieved, that he could ſcarcely refrain from tears. It is not ſaid of what the pen was made. *See Maſſey, p.* 70; *and the Ency. Brit. or Biog. Dict. Art. Allatius.*

Philemon Holland, a phyſician of Coventry, tranſlated Pliny's Natural Hiſtory into Engliſh with *one* pen, as he ſays himſelf in theſe lines,

With one ſole pen, I wrote this book,
Made of a grey-gooſe quill;
A pen it was, when I it took,
A pen I leave it ſtill.

It is humourouſly remarked by Mr. Howel, that the gooſe, the bee, and the calf rule the world; the one affording parchment, the other two ſealing-wax, and quills to write with. The pen, he adds, hath a thouſand virtues; it conſerves empires, and preſerves that noble virtue friendſhip, which elſe would periſh among men for want of practice.

The pen, however, is a two-edged ſword, which cuts both ways; and may, in the hand of vitious perſons, do the greateſt injury to ſociety, agreeably to the obſervation of an excellent poet.

The ſacred implement I now employ,
Might prove a miſchief, or at beſt a toy;
A trifle, if it move but to amuſe:
But, if to wrong the judgment and abuſe,
Worſe than a poignard in the baſeſt hand,
It ſtabs at once the morals of a land.

COWPER.

Many of the quills uſed in England come from Hudſon's-Bay, Hamburgh, and Ireland.

Suppoſe a quill merchant ſhould buy 20,000 quills at 3*s.* a thouſand; pay 1*s.* 6*d.* a thouſand for having them dutched; and 4*s.* 6*d.* a thouſand for their being converted into pens, which he ſhould then ſell for 1*s.* 2*d.* per hundred; what would he gain by the ſale? *Anſ.* £2 13*s.* 4*d.*

No. 277. GLASS. "It is pleaſing, as Dr. Johnſon well remarks, to contemplate a manufacture riſing gradually from its firſt mean ſtate by the ſucceſſive labours of innumerable minds; to conſider the firſt hollow trunk of an oak, in which, perhaps, the ſhepherd could ſcarcely venture to croſs a brook ſwelled by a ſhower, enlarged at laſt into a ſhip of war, attacking fortreſſes, terrifying nations, ſetting ſtorms and billows at defiance, and viſiting the remoteſt parts of the globe. And it might contribute to diſpoſe us to a kinder regard for the labour of one another, if we were to conſider from what unpromiſing beginnings the moſt uſeful productions of art have probably ariſen. Who, when he ſaw the firſt ſand or aſhes, by a caſual intenſeneſs of heat melted into a metalline form, rugged with excreſcences, and clouded with impurities, would have imagined, that in this ſhapeleſs lump lay concealed ſo many conveniencies of life, as would in time conſtitute a great part of the happineſs of the world. Yet by ſome ſuch fortuitous liquefaction was mankind taught to procure a body at once in a high degree ſolid and tranſparent, which might admit the light of the ſun, and exclude the violence of the wind; which might extend the ſight of the philoſopher to new ranges of exiſtence,

and

and charm him at one time with the unbounded extent of the material creation, and at another with the endleſs ſubordination of animal life; and, what is yet of more importance, might ſupply the decays of nature, and ſuccour old age with ſubſidiary ſight. Thus was the firſt artificer in glaſs employed, though without his own knowledge or expectation. He was facilitating and prolonging the enjoyment of light, enlarging the avenues of ſcience, and conferring the moſt laſting pleaſures; he was enabling the ſtudent to contemplate nature, and the beauty to behold herſelf."

Rambler, No. 9.

Glaſs is a tranſparent, ſolid, brittle, factitious body, produced of a ſpecies of ſalt* and ſand, or ſtone, by the action of fire. The proceſs is in part deſcribed in the following lines:

For this intent the ſubtle chymiſt feeds
Perpetual flames, whoſe unreſiſted force
O'er ſand and aſhes and the ſtubborn flint
Prevailing, turns into a fuſil ſea
That in his furnace bubbles ſunny-red:
From hence a glowing drop with hollow'd ſteel
He takes, and by one efficacious breath
Dilates to a ſurpriſing cube, or ſphere
Or oval, and fit receptacles forms
For ev'ry liquid with his plaſtic lungs,
To human life ſubſervient.

PHILIPS.

The chemiſts maintain, that all bodies may be vitrified; and as glaſs is the effect of fire, ſo it is the laſt effect of that element; all the chemiſt's art, and all the force of fire, not being able to carry the change of any natural body beyond its vitrification.

The diſcovery of glaſs, according to Pliny, took place by accident, in Syria, at the mouth of the river Belus, by certain merchants driven thither by the fortune of the ſea. Being obliged to live there, and dreſs their victuals by making a fire on the ground, and plenty of the plant kali being on the ſpot, this herb being burnt to aſhes, and the ſand or ſtones of the place accidentally mixing with it, a vitrification was undeſignedly made; from whence the hint was taken, and eaſily improved.

The firſt place, according to ſome authors, mentioned for the art of making glaſs, is Sidon in Syria, which became famous for glaſs, and glaſs-houſes; but others maintain, that the firſt glaſs-houſes noticed in hiſtory were erected at Tyre, which, they add, was the only ſtaple of the manufacture for many ages. Italy had the firſt glaſs win-

* The ſalt is procured chiefly from a kind of aſhes, called polverine, or rochetta, brought from the Mediterranean, particularly from Alexandria and Tripoli. The aſhes come from the plant kali, ſometimes called glaſs-weed.

dows;

dows; next France, from whence they came into England, and began to be common about the year 1180. The Venetians, for many years, excelled all Europe in the fineneſs and ſize of their looking-glaſſes; but they are now ſurpaſſed both by the Engliſh and French.

The glaſs manufacture was firſt begun in England in 1557, in London; improved in 1635; and brought to a great degree of perfection in the reign of king William III. But the firſt glaſs plates, for looking glaſſes and coach windows, were made in 1673 at Lambeth.

An extenſive manufactory of this elegant and valuable branch of commeree, firſt eſtabliſhed in Lancaſhire, about the year 1773, bids fair to rival, if not excel, the moſt celebrated continental manufactures, both with reſpect to the quality, brilliancy, and ſize of its productions. *See the Cyclop. and Ency. Brit.*

Mr. Townſend, however, who travelled through Spain in 1786, aſſerts, that the glaſs manufacture at S. Ildefonſa (a noted palace, built by Philip V. about 24 miles from the famous Eſcurial) is carried to a degree of perfection unknown in England. The largeſt mirrors are made in a braſs frame, 162 inches long, 93 wide, and 6 deep, weighing nearly nine tons. Theſe are deſigned wholly for the royal palaces, and for preſents from the king.

Journey, vol. ii. *p.* 114.

If 1728 elegant wine glaſſes were bought for £65 2*s*. how muſt they be ſold per dozen, or per glaſs, to gain ten guineas by the ſale of the whole? *Anſ.* 10*s*. 6*d*. per dozen; or 10½*d*. per glaſs.

No. 278. GLOVES. A glove is a covering for the hand and arm, uſed both for warmth, decency, and as a ſhelter from the weather. Gloves are made of various materials. Leathern gloves are made of ſhamoy, kid, lamb, doe, elk, buff, &c.

The chief places for the manufacture of Engliſh gloves are Worceſter, Hereford, Hexham, and Yeovil.

Suppoſe a glover in London ſhould purchaſe 50 dozen pairs of gloves from Worceſter, at 18*s*. 6*d*. per dozen, how muſt he ſell them per pair to gain after the rate of 20 per cent by the ſale? *i. e.* to gain twenty pounds by every hundred pounds which he ſhould lay out in the ſame manner. *Anſ.* 1*s*. 10*d*. $\frac{480}{600}$.

No. 279. HATS. A hat is a covering for the head, worn by the men throughout the weſtern part of Europe. Hats for men were invented at Paris by a Swiſs, in 1404. They were firſt manufactured at London by Spaniards in 1510. Before that time, both men and women in England commonly wore cloſe-knit woollen caps.

STOW's *Chron.*

F. Daniel relates, that when Charles II. made his public entry into Rouen, in 1449, he had on a hat lined with red velvet, and ſurmounted with a plume or tuft of feathers. He adds, that it is from this entry, or at leaſt under his reign, that the uſe of hats and caps is to be dated, which henceforward began to take place of the chaperoons and hoods that had been worn before.

Hats

Hats are made either of wool, or the hair of divers animals, as the hare, rabbit, camel, &c. and particularly of the caſtor or beaver*. Hats are alſo made for women's wear, not only of the above materials, but of chips, ſtraw, cane, horſe-hair, ſilk, &c.

Suppoſe hats purchaſed at 17*s.* 6*d.* each, wholeſale, were retailed at a guinea each, what would be the gain per cent? *Anſ.* £20 per cent.

No. 280. SHOES. A ſhoe is a covering for the foot, now uſually made of leather; but, in different ages and countries, ſhoes have been made of very various materials. They have been made of raw ſkins, of ruſhes, broom, paper, flax, ſilk, wood, iron, ſilver, and gold. Their form alſo has been very various, with reſpect to ſhape, colour, and ornament. They have been ſquare, high, low, long, and quite even, cut, carved, &c. So true is the obſervation of Shakeſpeare, that

> New cuſtoms,
> Though they be never ſo ridiculous,
> Nay, let 'em be unmanly, yet are followed.

The patricians, among the Romans, wore an ivory creſcent on their ſhoes: Heliogabalus had his covered over with a very white linen, in conformity to the prieſts of the ſun; Caligula wore his enriched with precious ſtones. The Indians, like the Egyptians, wore ſhoes made of the bark of the papyrus. The Turks always put off their ſhoes, and leave them at the doors of the moſques†.

In the reign of Edward IV. there was an extraordinary method of adorning ſhoes in England, with long peaks turning upwards from the toe, and faſtened by ſilver chains or laces to the knees; a cuſtom which was prohibited by a penal ſtatute in the ſame monarch's reign.

A pair of ſhoes is ſhewn, among other curioſities, at Peterſburgh, which belonged to Peter the Great, that had been *ſoled* ſeveral times.

Orig. Anecd. of Peter, p. 370.

A Perſian peaſant, who was elevated from his hovel, to the palace of his ſovereign, kept, with care, his original wooden ſhoes, to remind him of his firſt humble ſtation.

Mr. ANDREW'S *Anecd. p.* 42.

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* The beaver is an amphibious animal, frequent in Canada and other provinces of North America, and remarkable for his art, addreſs, and contrivance, in building his habitation, of which ſo many wonderful accounts are delivered by travellers, that they would ſcarcely obtain credit, were they not well atteſted.

† In alluſion to this cuſtom, Dr. Jortin, ſpeaking of *religious truth*, ſays, "He who is deſirous to find religious truth, muſt ſeek her in the holy ſcriptures, interpreted by good ſenſe and ſober criticiſm, and embrace no theological ſyſtems any farther than as they are found conſiſtent with the word of God, with right reaſon, and with themſelves. A theological ſyſtem is too often a temple conſecrated to implicit faith; and he who enters there to worſhip, inſtead of leaving his ſhoes, after the eaſtern manner, muſt leave his underſtanding at the door; and it will be well if he finds it when he comes out again."

The

The young pretender, after his defeat at Culloden, ſkulked about the Hebrides for many months in the greateſt diſtreſs*. At Port Ree, in the iſland of Sky, his ſhoes were worn out, and a friend furniſhed him with a new pair, and kept the old ones till his own death, when, as the late Mr. Boſwell, in his Journal, informs us, a zealous *Jacobite*† gave 20 guineas for them.

When the poet Linieres, ſays Menage, was reproached with always walking on foot, he replied extempore in the following epigram.

Je vois d'illuſtres cavaliers
Avec laquais, caroſſe, et pages;
Mais ils doivent leurs equipages,
Et je ne dois pas mes ſouliers.

If 365 dozen pairs of ſhoes were bought in London for a thouſand guineas, and taken to America at the expence of thirty guineas, how muſt they be ſold per pair, in that country, for the purchaſer to gain thirty per cent by the ſale? *Anſ.* 6*s.* 5*d.* $\frac{672}{4380}$.

No. 281. STOCKINGS. Stockings are coverings for the legs and feet.

Anciently the only ſtockings in uſe were made of cloth, or of milled ſtuffs ſewed together; but ſince the invention of knitting and weaving ſtockings of ſilk, cotton, wool, thread, &c. the uſe of cloth ſtockings is quite diſcontinued. It is related, that queen Elizabeth being preſented with a pair of black knit ſilk ſtockings in 1561, never afterwards wore any cloth ones. The ſame author, Dr. Howel, adds, that Henry VIII. uſually wore cloth hoſe, except there came from Spain, by great chance, a pair of ſilk ſtockings. His ſon, Edward VI. was preſented with a pair of long Spaniſh ſilk ſtockings, by Sir Thomas Greſham, and the preſent was then much taken notice of. Hence it ſhould ſeem, that the invention of ſilk knit ſtockings originally

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* See Queſtion, 190.

† The term Jacobite is derived from Jacobus, and was a reproachful epithet beſtowed on perſons who diſapproved of the revolution by king William, and who continued ſtill to aſſert the right, and adhere to the intereſts of the dethroned tyrant James, and his family. It has, moreover, been applied to all ſuch as have vindicated the execrable doctrines of paſſive obedience, non-reſiſtance, and the divine right of kings, and who, conſequently, hold high notions of their prerogatives. In this laſt ſenſe it has much the ſame import with *Tory*. The epithet *Whig* is generally underſtood to denote a friend to civil and religious liberty; a ſtern advocate for the rights of the PEOPLE, but who, nevertheleſs, is zealous in the ſupport of the king in all his juſt prerogatives, though at the ſame time deſirous of reducing him to an incapacity of abuſing his power.

Whatever, ſays Mr. Belſham, tends to enlarge the power of princes or of magiſtrates beyond the preciſe line or limit of the general good, whatever impoſes oppreſſive, or even ſuperfluous reſtraints upon the liberty of the people, or introduces any ſpecies of civil inequality, not founded on the baſis of public utility, is of the very eſſence of *toryiſm*. On the other hand genuine WHIGGISM is nothing more than good temper and good ſenſe, or, to adopt higher and more appropriate terms of expreſſion, benevolence and wiſdom applied to the ſcience of government.

came

came from Spain. There is a MS. letter from James VI. of Scotland to the earl of Mar, requeſting the loan of a pair of ſilk ſtockings, in which the earl had appeared at court, becauſe he was going to give audience to the French ambaſſador.

Mr. TOWNSEND's *Journey*, *vol.* iii. *p.* 268.

The art of weaving ſtockings in a frame was invented in 1589, by William Lee, M. A. of St. John's-College, in Cambridge, a native of Woodborough, near Nottingham.

A pair of coloured worſted ſtockings, mended in ſeveral places, formerly belonging to Peter the Great, are ſtill exhibited at Peterſburgh.

Orig. Anecd. of Peter, *p.* 370.

The exportation of ſtockings from Great-Britain forms an important article of commerce. Our principal manufacture is at Nottingham; but from Aberdeen there are, ſays the *Ency. Brit.* no leſs than 69,333 dozen pairs of ſtockings annually exported, worth on an average, £1 10*s.* per dozen.

What is the value of the whole at the above price; and ſuppoſing them retailed at 2*s.* 9½*d.* per pair, what would be gained by the ſale, allowing 2000 guineas, £33 5*s.* 6*d.* for carriage, &c. *Anſ.* £103,999 10*s.* value of the whole; and £10,000 gained by the ſale.

N. B. Mr. Boſwell, in his Journal, obſerves, that Aberdeen exports ſtockings to the value of £100,000 per annum in time of peace, and £170,000 in time of war.

No. 282. TOBACCO received its name from Tabaco, a province of Yucatan, New Spain, North-America; or, as ſome aſſert, from the iſland of Tobago, one of the Caribbees. It was not known in Europe till after the diſcovery of America by the Spaniards, and firſt imported about the year 1560. It was brought into England about 1586, in the reign of queen Elizabeth; and it is ſuppoſed, either by captain Greenfield, Sir Francis Drake, or Sir Walter Raleigh.

Our James I. wrote a treatiſe expreſsly againſt the uſe of this exotic weed. It is, ſays he, a cuſtom loathſome to the eye, hateful to the brain, dangerous to the lungs, and in the black, ſtinking, fume thereof neareſt reſembling the horrible ſtygian ſmoke of the pit that is bottomleſs. The ſame royal author, as Mr. Granger obſerves, profeſſed, that were he to invite the Devil to a dinner, he ſhould have three diſhes: firſt, a pig; ſecond, a poll of ling and muſtard; and third, a pipe of tobacco for digeſture.

Biog. Hiſt. of England, *vol.* ii. *p.* 1.

One of our beſt modern poets has alſo expreſſed a pointed diſlike to the uſe of tobacco, but for a reaſon much more cogent than any of thoſe aſſigned by the pedantic "Britiſh Solomon."

Pernicious weed! whoſe ſcent the fair annoys,
Unfriendly to ſociety's chief joys,
Thy worſt effect is baniſhing for hours
The ſex whoſe preſence civilizes our's:

Thou

Thou art, indeed, the drug a gard'ner wants,
To poiſon vermin that infeſt his plants;
But are we ſo to wit and beauty blind,
As to deſpiſe the glory of our kind,
And ſhow the ſofteſt minds and faireſt forms,
As little mercy as he grubs and worms?

COWPER.

Tobacco, however, has not been without its able advocates, of which number was Mr. J. Philips, who has ſung its praiſes in all his poetical productions except "Blenheim;" and his "Splendid Shilling," ſays one of his biographers, owes ſome part of its luſtre to the happy introduction of a tobacco-pipe. In his Cider we find the following eulogium on this "ſovereign herb," as he elſewhere ſtyles it.

To ſage experience we owe
The Indian weed unknown to ancient times,
Nature's choice gift, whoſe acrimonious fume
Extracts ſuperfluous juices, and refines
The blood diſtemper'd from its noxious ſalts;
Friend to the ſpirits, which with vapours bland
It gently mitigates; companion fit
Of pleaſantry and wine; nor to the bards
Unfriendly, when they to the vocal ſhell
Warble melodious their well-labour'd ſongs.

Tobacco is cultivated in ſeveral parts of America, in the Weſt-Indies, the Levant, the coaſts of Greece, the Archipelago, Malta, Italy, France, Ceylon, &c. The principal kinds of tobacco imported into England are the Maryland, called Oronooko, and the Virginia. Britiſh taſte prefers that of the latter ſtate, while the northern nations of Europe are ſaid to like the former better. The cultivation of tobacco, ſays Dr. Gordon, began in Virginia in the year 1616.

Tobacco is either taken by way of ſnuff, as a ſternutatory; or as a maſticatory, by chewing it in the mouth; or by ſmoking it in a pipe. It is conſidered as a firſt rate narcotic or opiate; and is occaſionally uſed medicinally.

France raiſes 15,000,000 pounds of tobacco annually. *Zimmerman, p.* 254. What is the value of this quantity at £7 15*s.* 6*d.* per cwt? *Anſ.* £1,041,294 12*s.* 10¼*d.*

No. 283. BUTTER. Butter is an unctuous ſubſtance, made by agitating the cream of milk in a churn, till the oil ſeparates from the wheyey, or ſerous parts. Some of our churns are heavy machines, and require great exertions of ſtrength to work them; but Mr. Townſend obſerves, that in Spain the women churn as they walk along, or ſtand chatting with a neighbour, each with a leathern bag, in which they ſhake the cream till the butter is completely formed.

Journey, vol. i. *p.* 388.

In Barbary butter is made by putting the milk or cream into a goat's ſkin, ſuſpended from one ſide of the tent to the other, and preſſing it to

to and fro in one uniform direction; and in Bengal butter is eaſily made by the ſlight turning of a ſtick in milk.

SHAW's *Trav. and Phil. Tranſ.*

The trade in butter in England is very conſiderable. Some compute, that 50,000 tons are annually conſumed in London only. It is chiefly made within 40 miles round the city. Fifty thouſand firkins are ſaid to be ſent yearly from Cambridge and Suffolk alone; each firkin containing 56 pounds. A conſiderable part of this vaſt quantity is, however, brought from Downham, 10 miles ſouth of Lynn, in Norfolk, to Cambridge, and thence conveyed to London in the waggons. Uttoxeter, in Staffordſhire, is a market famous for good butter, inſomuch that the London dealers have eſtabliſhed a factory there for that article. It is bought by the pot, of a long cylindrical form, weighing 14lb. But no butter is eſteemed equal to that which is made in the county of Eſſex, well known by the name of Epping butter: and which in almoſt every ſeaſon of the year yields at London from a ſhilling to fourteen pence the pound.

It was long before the Greeks appear to have had any notion of butter: their poets make no mention of it, and yet are frequently ſpeaking of milk and cheeſe. The Romans uſed butter no otherwiſe than as a medicine, never as a food. The ancient Jews, however, appear to have been acquainted with the method of preparing butter. Solomon, Iſaiah, and even Moſes, ſpeak of it. The laſt repreſents it as in uſe in Abraham's time: *See Gen.* xviii. 8. *Prov.* xxx. 33. and *Iſaiah* vii. 15; but ſome modern writers ſuppoſe, that by butter in theſe paſſages we are to underſtand cheeſe.

Cyclop.

Suppoſe the quantity of butter ſent from Cambridge and Suffolk to London yearly, were purchaſed for $7\frac{1}{2}d.$ per pound, and the expence of conveying it to town came to $1\frac{1}{4}d.$ per pound, how much would be the gain per cent, if it were ſold in London at $11d.$ per pound; what would be gained by the ſale of the whole; and what would be the whole ſum it ſold for in London? *Anſ.* £25 14*s.* $3\frac{1}{4}d.$ gain per cent; £26,250 gained by the ſale; £128,333 6*s.* $8d.$ the ſum it ſold for.

No. 284. BREAD. Bread is uſually made of the flour or meal of ſome farinaceous vegetable, chiefly corn, ground and kneaded with water and yeaſt. Potatoe-bread is common in Ireland; and turnip-bread is uſed in ſome parts of England. In the time of James I. the uſual bread of the poor was made of barley. In Iceland dried cod-fiſh, beaten to powder, and made up into cakes, is eaten for bread. The ſame kind of bread is made among the Laplanders, whoſe country affords no corn; and even among the Crim Tartars. At Otaheitee, one of the new diſcovered iſlands in the South-Sea, there is a tree, deſcribed in Hawkeſworth's voyages, called the bread-fruit tree. It is about the ſize of a middling oak; and the fruit is nearly as large, and in the ſhape of a child's head. It is roaſted and baked before it is eaten; and has an inſipid ſweetiſh taſte.

Bread, ſuch as ours, is not only a very agreeable but a very wholeſome and nutritive aliment; deemed, indeed, by ſome, the lighteſt and propereſt food for human bodies:

"Decaying man with ſtrength ſupplying."

Anciently each houſewife was her own baker; and the learned are in great doubt about the time when baking became a particular profeſſion, and bakers were introduced. It is, however, generally agreed, that they had their riſe in the Eaſt, and paſſed from Greece to Italy after the war with Pyrrhus, about the year of Rome 583. *See Cyclop. and Ency. Brit. Art. Baker.*

The price of bread, in London, is regulated by the magiſtrates, according to the price of wheat; and a peck loaf, when well baked, is to weigh 17 lb. 6 oz. avordupoiſe weight, and the reſt in proportion. "When we ſee," ſays a facetious writer, "the print of *Garagantua*, that has a mouth as large as an oven, and ſwallows, at one meal, 1200 pounds of bread, 20 oxen, 100 ſheep, 600 fowls, 1500 hares, 2000 quails, 1000 barrels of wine, 6000 peaches, &c. who does not ſay, THAT is the mouth of a *king?*"

Add 538 ounces to the quantity of bread now mentioned, find how many quartern loaves the total contains, and their value at 1*s.* 0½*d.* per loaf, its preſent enormous price, *July* 23, 1795. *Anſ.* 284 quartern loaves; £14 15*s.* 8*d.* their value.

No. 285. CANDLES. Candle is a cotton or linen wick, looſely twiſted, and covered with tallow, wax, or ſpermaceti, in a cylindrical figure; which being lighted at the end, ſerves to illumine a place in the abſence of the ſun. A tallow-candle, to be good, muſt be half ſheep's and half bullock's tallow; for hog's tallow makes the candle gutter, and always gives an offenſive ſmell, with a thick, black ſmoke. The wick ought to be pure, ſufficiently dry, and properly twiſted; otherwiſe the candle will emit an inconſtant vibratory flame, which is both prejudicial to the eyes, and inſufficient for the diſtinct illumination of objects. There are two ſorts of tallow-candles; the one dipped, the other moulded. The firſt, which are thoſe in ordinary uſe, are of an old ſtanding; the latter are ſaid to be the invention of the Sieur le Brez at Paris.

Cyclop. and Ency. Brit.

There is, ſays Mrs. Griffiths, a beautiful alluſion, made by Shakeſpeare, to the light of a candle, which, with the moral deduced from it, is worthy of notice.

How far this candle throws its beams!
So ſhines a good deed in a naughty world.

Suppoſe a perſon bought 40 dozen pounds of candles for £16 4*s.* and, in conſequence of their being damaged in conveying them home, he ſhould be obliged to ſell them at 5¼*d.* per pound, what would be his loſs by the ſale? *Anſ.* £4 14*s.*

No. 286.

No. 286. SOAP. Soap is a kind of paſte, ſometimes hard and dry, and ſometimes ſoft and liquid, much uſed in waſhing, and for various other purpoſes. The chief ingredients uſed in making green ſoft ſoap are, lees drawn from pot-aſh and lime, boiled up with tallow and oil, with the addition of indigo to colour it. In white ſoft ſoap the oil is omitted. Hard ſoap is made with lees from aſhes, and tallow. The fineſt of the common ſoaps is that called Spaniſh, or Caſtile ſoap, which is made with olive-oil, and the alkaline ſalt called ſoda or barilla.

Soap, both hard and ſoft, is applied to medical uſe. It is a very effectual anti-acid, and one of the beſt antidotes to ſtop quickly, and with the leaſt inconvenience, the bad effects of acid corroſive poiſons, as aqua fortis, &c.

The manufacture of ſoap in London firſt began in the year 1524; before which time this city was ſerved with white ſoap from foreign countries, and with grey ſoap ſpeckled with white from Briſtol.

Cyclop.

It is, ſays Mr. Zimmerman, the inferior ſort of oil which is uſed in making ſoap in France; and he adds, that in Marſeilles alone there are 36 ſoap manufactures, *p.* 253.

What are 2 cwt. 3 qrs. 27 lbs. of ſoap worth at $11\frac{3}{4}$d. per lb; and how muſt it be ſold per lb. to gain £3 11*s.* $11\frac{3}{4}$*d.* by the ſale? *Anſ.* £16 8*s.* $0\frac{1}{4}$*d.* the value; 1*s.* $2\frac{1}{4}$*d.* $\frac{10}{33}\frac{5}{3}$ the price it muſt be ſold for.

No. 287. TURKEY. Turkeys are natives only of America, or the New World, and of courſe unknown to the ancients. This is a point which Mr. Pennant has eſtabliſhed, by an elaborate induction of various particulars, in the hiſtory of theſe birds; evincing, that they are natives neither of Europe, Aſia, nor Africa. Wild turkeys are now very rare in the inhabited parts of America, but are found in numbers in the diſtant and moſt unfrequented ſpots. They uſually weigh about 30 pounds each. The Indians make a very elegant clothing of the feathers, twiſting the inner webs into a ſtrong double thread of hemp, or inner bark of the mulberry-tree, and working it like matting: it appears rich and gloſſy, and as fine as a ſilk ſhag. They alſo make fans of the tail, and the French of Louiſiana were accuſtomed to make umbrellas by the junction of four of the tails.

Turkeys were firſt introduced into Europe from Mexico or Yucatan, and imported into England, probably from Spain, as early as the year 1524. Since that period they have been ſucceſsfully cultivated in this kingdom, ſo that in 1585 they made a diſh even in our rural feaſts. But in France they were ſo rare, that the firſt which was eaten in that country appeared at the nuptial feaſt of that monſter of cruelty Charles IX. in 1570.

The largeſt turkeys in England are reared in the county of Norfolk. Some of them weigh upwards of 30 pounds, when prepared for dreſſing.

Suppoſe a perſon ſhould purchaſe 500 turkeys for 125 guineas, and ſell 40 at 5*s.* 9*d.* each; 60 at 6*s.* 2*d.* each; 150 at 6*s.* 9*d.* each; and the remainder at 7*s.* 6*d.* each, what would he gain by the whole? *Anſ.* £43 2*s.* 6*d.*

No. 288.

No. 288. Introduction of Vegetables, &c. into England. One of the principal advantages, reſulting to Europe from exploring diſtant regions, has been the introduction of ſome of the moſt uſeful plants and fruits that are now cultivated with ſo much advantage. From the diſcovery of America one of the moſt important benefits, perhaps, which we received, was the introduction of the potatoe; a root by far the moſt uſeful of all others we have among us, and which, though it now forms food for the poor, was little more than a century ago confined to the gardens of the curious, and preſerved as a rarity. *See queſtion* 101.

The pear, the peach, the apricot, and the quince, were reſpectively brought from Epirus, Carthage, Armenia, and Syria. They were firſt tranſplanted into Italy, and thence diſſeminated by the Romans through the northern and weſtern parts of Europe. Fruit, ſays Mr. Andrews, ſeems to have been very ſcarce in the time of Henry VII. In an original MS. ſigned by himſelf, and kept in the remembrance office, it appears, that apples were paid for at a high rate, not leſs than one or two ſhillings a piece; that a red roſe, coſt two ſhillings; and that a man and woman had eight ſhillings and fourpence for ſtrawberries.

Anecd. p. 80.

It was not till the latter end of the reign of Henry VIII. viz. about 1547, that any ſalads, carrots, turnips, cabbage*, or other edible roots were produced in England. The little of theſe vegetables that was uſed, was formerly imported from Holland and Flanders. Queen Catherine, when ſhe wanted a ſalad, was obliged to diſpatch a meſſenger thither on purpoſe†. Sundry other kinds of fruits and plants were alſo firſt cultivated in England during this reign, particularly apricots, pippins, and fine gooſeberries. The latter are ſaid to have been brought from Flanders. The currant tree is ſaid to have been firſt conveyed from Zante, on the weſtern coaſt of the Morea, in European Turkey, by the Venetians, to whom that iſland ſtill belongs, and planted in England in the year 1533.

Aſparagus, artichokes, cauliflowers, beans, and peas, were introduced about the time of Charles the IId's reſtoration, viz. in 1660. The cauliflower plant, according to ſome, was not known here till a conſiderable time after the period juſt mentioned, though it is now to be found in no other part of the globe in equal perfection. In ſhort, nuts, acorns, crabs, and a few wild berries, were almoſt all the variety of vegetable food indigenous to our iſland. The meaneſt labourer, as Dr. Aikin juſtly obſerves, now is fed with more wholeſome and delicate aliments than the petty kings of the country could obtain in its uncultivated ſtate. *See Dr.* Aikin's *Introd. to England Delineated.*

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* Cabbages were introduced into Scotland by the ſoldiers in Cromwell's army.

† Hume, vol. iv. p. 273.

The

The emperor ALBINUS, who, before his advancement to this honour, had been made governor of Britain, by Commodus, had ſo voracious an appetite, that we are told, he ſometimes devoured, for his breakfaſt, no leſs than 500 figs, 100 peaches, 10 melons, 20 lbs. of grapes, 100 ſmall birds, and 400 oyſters. Being defeated by Severus, his competitor for the imperial dignity, his head was ſtruck off, and his body thrown into the Rhone, A. D. 198.

Valuing the figs at $2\frac{1}{4}d.$ the peaches at $5\frac{1}{4}d.$ the melons at $4s.$ $9\frac{3}{4}d.$ each; the grapes at $1s.$ $11\frac{1}{2}d.$ per lb. the birds at $6\frac{3}{4}d.$ each, and the the oyſters at 3 a penny, what is the value of the whole? *Anſ.* £14 16*s.* $3\frac{1}{4}d.$

N. B. That execrable tyrant MAXIMINUS, another Roman emperor, is ſaid to have generally devoured 40 lbs. of meat in a day, and to have drank 18 bottles of wine in the ſame ſpace of time. He was aſſaſſinated at Aquileia, A. D. 236.

No. 289. MILK. A well-known fluid, prepared by nature in the breaſts of women, and the udders of other animals, for the nouriſhment of their young. It is the food moſt univerſally ſuited to all ages and ſtates of the body, but ſeems chiefly deſigned by Providence as the aliment of infants. That there were, however, many adults among the ancients who lived chiefly, if not entirely, upon this wholeſome and pleaſant liquid, we learn from Homer, who mentions a claſs of people

> Renowned for juſtice and for length of days,
> Thrice happy race! that, innocent of blood,
> From *milk*, innoxious, ſought their ſimple food.

And travellers inform us, that in Tartary milk ſtill makes a principal part of the diet of the inhabitants.

Mr. Foote, in his ſurvey of the county of Middleſex, undertaken for the board of agriculture, repreſents, that there are kept for ſupplying the metropolis and its environs with milk no leſs than 8,500 cows. Now ſuppoſing each of theſe uſeful animals to produce daily, on an average, two gallons of this grateful beverage, and that the whole ſhould be ſold at 3*d.* per quart, what is its value? *Anſ.* £310,250.

No. 290. FLANNEL. Flannel is a kind of ſlight, looſe, woollen ſtuff, made originally in Wales, where it ſtill continues to be manufactured in great perfection, particularly at Welch-Pool in Montgomeryſhire.

Flannel worn next the ſkin greatly promotes inſenſible perſpiration, and

> "Gives kindlieſt warmth to weak enervate limbs,
> "When the pale blood ſlow riſes thro' the veins."

Dr. Black expreſſes his ſurpriſe, that the cuſtom of wearing flannel next the ſkin ſhould not have prevailed more univerſally. He is confident, that it would prevent a number of diſeaſes; and he thinks, that there is no greater luxury than the comfortable ſenſation which ariſes

ariſes from wearing it, eſpecially after one is a little accuſtomed to it. It is a miſtaken notion, ſays he, that it is too warm a clothing for ſummer. I have worn it, he adds, in the hotteſt climates, and at all ſeaſons of the year; and never found the leaſt inconvenience from it. It is the warm bath of a perſpiration confined by a linen ſhirt, wet with ſweat, which renders the ſummer heats of ſouthern climates ſo inſupportable; but flannel promotes perſpiration, and favours its evaporation; and evaporation, as is well known, produces poſitive cold.

It was remarked of ſome Boſtonians who had ſettled in Virginia, and whoſe conſtant cuſtom in their own country is to wear flannel next to the ſkin, that they eſcaped an epidemic fever which attacked the inhabitants, who, profiting by this diſcovery, were never afterwards attacked by this diſeaſe. *Europ. Mag. for July* 1794.

If 50 pieces of flannel, each containing 48 yards, were purchaſed in London at 2*s.* 2*d.* per yard, and the ſhipping of it to America coſt 10 guineas, excluſively of 12 per cent inſurance; how muſt it be ſold per yard in that country, to gain 25 per cent upon the whole ſum expended? *Anſ.* 3*s.* $1\frac{1}{2}$*d.* $\frac{2040}{2400}$.

No. 291. ENGLAND'S GRATEFUL TRIBUTE TO THE BRAVE. Chelſea and Greenwich, two beautiful villages on the banks of the Thames, in the vicinity of London, are deſervedly celebrated on account of their magnificent hoſpitals for old and decrepid ſoldiers and ſeamen. They are both noticed in an elegant modern poem.

Go, with old Thames, view Chelſea's glorious pile;
And aſk the ſhatter'd hero, whence his ſmile?
Go, view the ſplendid domes of Greenwich, go;
And own what raptures from reflection flow,
Hail, nobleſt ſtructures imag'd in the wave!
A nation's grateful tribute to the brave.
Hail, bleſt retreats from war and ſhipwreck, hail!
That oft arreſt the wondering ſtranger's ſail.

ROGERS'S *Pleaſures of Memory*.

About four hundred decayed ſoldiers, among whom are doubtleſs ſome, who, in the vigour of their days

"Sought the bubble reputation
"Ev'n in the cannon's mouth,"

find an aſylum in Chelſea-Hoſpital, to which, moreover, belong ten thouſand out-penſioners, who receive an annuity of £7 12*s.* 6*d.* each, annually. The firſt projector of this ſuperb ſtructure was Sir Stephen Fox, grandfather to the preſent diſtinguiſhed patriot, Mr. Charles Fox. "He could not bear," he ſaid, "to ſee the common ſoldiers, who had ſpent their ſtrength in our ſervice, reduced to beg*;" and to this edifice he contributed £13,000.

About two thouſand old diſabled ſeamen are maintained in Greenwich-Hoſpital; but there are no out-penſioners.

* Beg through realms their valour ſav'd. YOUNG.

What

What is the yearly ſum paid to the out-penſioners of Chelſea-Hoſpital? *Anſ.* £76,250.

No. 292. ENGLISH CHARITY. It has been well remarked, that notwithſtanding the variety of ſects of Chriſtians which are found in England, and the diverſity of religious ſentiment, which are the natural conſequence of freedom of diſcuſſion with reſpect to diſputed doctrines, there is no country on earth where there are more *poſitive* acts of religion. They do not indeed conſiſt of rich ſhrines, or votive tablets conſecrated to particular ſaints, but of efficient charity applied to every purpoſe of philanthropy.

The blameleſs poor, the nobly maim'd,
The loſt to reaſon, the declin'd in life,
The helpleſs young that kiſs no mother's hand,
And the grey ſecond infancy of age,
She gives in public families to live,
A ſight to gladden Heaven! THOMSON.

England has moreover to exult in a liſt of illuſtrious names, dear to every friend of humanity, who made it the great buſineſs of their lives to cheer, to comfort, and to relieve individual wretchedneſs; and who could ſay, with Job, that they had been *eyes to the blind, feet to the lame*, and *fathers to the poor*.

" A favourite band, whom mercy mild
" God's beſt lov'd attribute adorn'd; whoſe gate
" Stood ever open to the ſtranger's call;
" Who fed the hungry; to the thirſty lip
" Reach'd out the friendly cup; whoſe care benign
" From the rude blaſt ſecur'd the pilgrim's ſide;
" Who heard the widow's tender tale; and ſhook
" The galling ſhackle from the pris'ner's feet;
" Who each endearing tye, each office knew
" Of meek-ey'd, heav'n-deſcended charity."

We have to boaſt of a FIRMIN*, a KYRLE†, a HOWARD‡, a DAY§, a THORNTON, and many others, whoſe fortunes were ſhared with the ſons

* Mr. THOMAS FIRMIN was a citizen of London, eminently diſtinguiſhed for the greateſt activity and ardour of benevolence. His judicious and extenſive charities were unequalled at the time in which he lived, and appear never to have been ſurpaſſed by any ſingle perſon. In a poem, publiſhed in honour of him ſoon after his death, he was " compared, for his activity and zeal, to thoſe miniſtring ſpirits, who, warmed with the divineſt principle of love, are ever on the wing, and fly without ceaſing to every place where diſtreſs calls for their aid, or they may be able to adminiſter joy." Mr. Corniſh ſays, " Mr Firmin was always very diligent in buſineſs, but more abundantly ſo in acts of kindneſs and charity; and he juſtly deſerved (if it be poſſible for a mortal to deſerve) the title of a GODLIKE MAN." He died in 1697, and was interred in Chriſt-Church-Hoſpital, London, in the cloiſters of which is an inſcription to his memory.

Britiſh Biography, 8vo. *vol.* vi. *p.* 378—387. CORNISH'S *Life of* Mr. THOMAS FIRMIN, 12mo. 1780.

† See queſtion 142. ‡ See queſtion 253.

§ Mr. Thomas Day was the author of many excellent political productions, which breathe the genuine ſpirit of diſintereſted patriotiſm and a ſincere regard to the rights

ſons and daughters of affliction. Mr. Thornton, of Clapham, was one of the greateſt merchants in Europe, and the half of his immenſe profits was, it is ſaid, generally dedicated to the poor. He expended annually *two thouſand pounds* in the diſtribution of religious books only, and his charities reached to the remoteſt part of the globe. It is with great ſatisfaction we add, that, according to univerſal report, the deſcendants of this truly great, becauſe good man, are walking in the ſteps of their venerable father.

Suppoſing the books diſtributed by Mr. Thornton to have been bought, on an average, for $\frac{2}{3}$ of a pound ſterling the half dozen, how many would have been given away yearly? *Anſ.* 18,000.

No. 293. BEEF. Beef is the fleſh of black cattle; *i. e.* of an ox, bull, or cow, prepared for food. The nobleſt joint of beef is univerſally allowed to be the loin, which, on account of its having been once actually knighted by one of our kings, in a fit of royal condeſcenſion and jocularity, is now denominated SIR-LOIN. This ample joint has given riſe to a well-known popular ballad, ſtyled "The roaſt beef of old England;" and it ſtill continues to make a conſpicuous figure at the tables of all

"Who hoſpitably live,
"And ſtrangers with good cheer receive."

Thomſon places the ſir-loin at the head of his autumnal feaſt.

Firſt the fuelled chimney blazes wide;
The tankards foam; and the ſtrong table groans
Beneath the ſmoking *ſir-loin*, ſtretch'd immenſe
From ſide to ſide, in which, with deſperate knife,
They deep inciſion make, and talk the while
Of England's glory, ne'er to be defac'd
While hence they borrow vigour.

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rights and liberties of mankind. And his popular "Hiſtory of Sandford and Merton" will ever remain an inſtance of the ſucceſsful application of genius to form the minds of youth to *active and manly virtue*. Conſidered in the light of counteracting the effeminacy and imbecility of the preſent manners, this hiſtory ſeems, in merit and in effect, to riſe above any other work that has been written for children, and is indeed admirably calculated

To wake the ſoul by tender ſtrokes of art,
To raiſe the genius, and to mend the heart.

POPE.

The larger portion of Mr. Day's income was dedicated to the relief of his fellow-creatures, and he confined his own expences within the ſtricteſt bounds of moderation and œconomy; both that he might be enabled to be more liberal to others, and that he might, as far as his own example could influence, reſiſt the oppoſite exceſs of prodigality and vanity which ſo generally prevails. This valuable member of ſociety was killed by a fall from his horſe on the 28th of September, 1789, in the 41ſt year of his age. He reſided the laſt ten years of his life at Anningſley near Chertſey, in Surrey. *See* Mr. KEIR's *Life of* Mr. DAY.

Suppoſe

Suppoſe four ſir-loins of beef weighing ſeverally 28½ lbs. 37¼ lbs. 45½ lbs. and 56¾ lbs. each, were purchaſed at 3*s.* 4½*d.* per ſtone*, and ſold at 7¾*d.* per lb. what would be gained by the ſale of the whole? *Anſ.* £1 17*s.* 7½*d.*

No. 294. MUTTON. Mutton is the common name of the fleſh of a ſheep after the animal has been killed, and has been frequently preferred to all the fleſh of quadrupeds; and, indeed, beſides its intrinſic excellence as a ſpecies of food, it has the advantage of being more generally ſuited to different climates: whereas beef, *e. g.* requires a very nice intermediate ſtate, which it ſeems to enjoy chiefly in England; for although Scotland ſupplies what are eſteemed excellent cattle, it is in the rich Engliſh paſtures that they are brought to perfection. Now the ſheep can be brought almoſt to the ſame perfection in Scotland as in the ſouthern countries.

Thro' all the brute creation none as ſheep
To lordly man ſuch ample tribute pay.
For him their udders yield nectareous ſtreams;
For him their downy veſtures they reſign;
For him they ſpread the feaſt.

DYER.

It is obſerved in Bacon's Natural Hiſtory, that the fleſh of mutton is better taſted where the ſheep feed upon wild thyme and wholeſome herbs. Hence the mutton fed upon the delightful downs of Banſtead in Surrey, which are covered with thyme, is ſaid to be the ſweeteſt and beſt flavoured in the kingdom.

Suppoſing a ſheep weighing 19½ ſtone were bought of a carcaſe-butcher at 3*s.* 2¾*d.* a ſtone, and retailed, on an average, at 5¼*d.* per lb. what would be gained by the ſale? And if the purchaſer ſold two ſheep every *working* day throughout a year, what would be his gains at the expiration of that period? *Anſ.* 11*s.* 9½*d.* gained by one ſheep; £369 1*s.* 7*d.* by the annual ſale.

No. 295. INTEREST. Intereſt is the premium, or money paid, for the loan or uſe of other money lent for a certain time, according to ſome certain rate. The ſum lent is called the principal, becauſe it is the ſum that procreates the intereſt.

The rate of legal intereſt in this country has varied and decreaſed for 200 years paſt, according as the quantity of ſpecie in the kingdom has increaſed by acceſſions of trade, the introduction of paper credit, and other circumſtances. It has been 10, 8, 6; and, laſtly, 5 per cent yearly, which is now the extremity of legal intereſt that can be taken.

There are ſome caſes where it is cuſtomary to conſider the time elapſed different ways. In the courts of law, intereſt is always computed in years, quarters, and days; which, indeed, is the only equi-

* See the table of the cuſtomary weight of goods.

table method: but in computing the intereſt on the public bonds of the South-Sea and India companies, and in the bank of England, &c. the time is generally taken in calendar months and days; and on exchequer bills in quarters of a year and days.

What is the intereſt of £230 10*s.* for one year at 4 per cent. per annum? *i. e.* the lender to receive 4 pounds for the loan of £100 for the ſpace of one year; and ſo in proportion for any ſum of money or number of years. *Anſ.* £9 4*s.* 4¾*d.*

No. 296. What is the intereſt of £547 15*s.* for three years at 5 per cent. per annum? *Anſ.* £82 3*s.* 3*d.*

No. 297. What is the amount, *i. e.* the principal and intereſt added together, of £690 for three years, at 4¼ per cent.? *Anſ.* £777 19*s.* 6*d.*

No. 298. Public Debt of America. The public debt of America, ſays Mr. Cooper, is ſmaller in proportion to the preſent wealth and population of the United States, than the public debt of any other civilized nation. The expences of the government alſo are much leſs, in proportion to wealth and numbers, than thoſe of any nation in Europe. Mr. Cooper's Information reſpecting America, p. 210. The ſame author, page 62, ſtates the debt of America at £16,000,000 ſterling. What is the annual intereſt, ſuppoſing it ſhould be calculated at the unuſual rate of 6¼ per cent. per annum? *Anſ.* £1,000,000 ſterling.

No. 299. Annual Interest of the British Public Debt, in 1795. At the commencement of hoſtilities with America, in the year 1775, that moſt diſtinguiſhed patriot, and friend to the great intereſts of mankind, the late venerable Dr. Price, very juſtly exclaimed againſt the inſanity of involving this country in a war, when it was loaded with a debt of 150 millions ſterling. The diſgraceful iſſue, and fatal conſequences of that unhappy conteſt, have been already adverted to*; and it might have been rationally ſuppoſed, that they would have been ſufficient to have taught us wiſdom, and to have deterred us from engaging haſtily in another war. But unfortunately, as Mr. Morgan remarks, we ſeem incapable of receiving inſtruction, and are now involved in a warfare, which, after having been begun with a debt of 250 millions, has, in two campaigns only, increaſed this enormous burthen to the ſtupendous amount of £331,679,329!! Surely, continues Mr. M. the moſt zealous advocates of this *juſt and neceſſary war*, "will be forced to acknowledge, that the provocations and injuries we had ſuſtained muſt have been very flagrant, to juſtify the waſte even of ſo much treaſure, excluſive of the more ſerious waſte of human life, by which this war has been ſo remarkably diſtinguiſhed." Were this inauſpicious conteſt to be imme-

* See queſtions 211 and 216.

diately

diately concluded, our ordinary expenditure would be at leaſt 20 millions *per annum;* a ſum, which is ſuppoſed to be two millions greater than the yearly rents of all the lands in the kingdom. *See a ſmall pamphlet entitled* "A Review of the Finances of Great-Britain," &c. *by* W. MORGAN, *F. R. S. Second Edition.*

Out of the above-mentioned 20 millions of annual expenditure are to be deducted, according to Mr. Morgan, no leſs than £12,127,488 ſterling for the liquidation of the intereſt of the national debt: What is the average rate per cent. agreeably to this ſtatement? *Anſ.* £3 13*s.* 1½*d.*

No. 300. COMMISSION. Commiſſion is an allowance of ſo much per cent. to a factor, or correſpondent abroad, for buying and ſelling goods for his employer.

What does the commiſſion on £529 18*s.* 5*d.* come to at 2¼ per cent.? *i. e.* £2 5*s.* for every hundred pounds worth of goods bought or ſold by the agent, or factor? *Anſ.* £11 18*s.* 5½*d.*

N. B. Commiſſion is ſometimes charged at 1, 2, 3, 4, &c. and ⅛, ⅜, ⅝, or ⅞ per cent.; in which caſe the pupil has only to convert the given fraction into ſhillings and pence; *e. g.* ⅛ is one-eighth part of a pound, *i. e.* 2*s.* 6*d*; ⅜ are 7*s.* 6*d*; ⅝ are 12*s.* 6*d.* and ⅞ are 17*s.* 6*d.* The more common fractions are ¼, ½, or ¾; and theſe are ſeverally 5*s.* 10*s.* or 15*s.*

No. 301. If a factor be allowed 7⅜ per cent. for commiſſion, what will be his demand for laying out £1200. *Anſ.* £91 10*s.*

No. 302. BROKERAGE. Brokerage is an allowance of ſo much per cent. to a perſon called a broker, for aſſiſting merchants or factors in procuring or diſpoſing of goods.

What is the brokerage of £610 at ¼ per. cent.? *Anſ.* £1 10*s.* 6*d.*

No. 303. INSURANCE. Inſurance is a premium of ſo much per cent. given to certain perſons and offices for a ſecurity of making good the loſs of ſhips, merchandizes, houſes, &c. which may happen from ſtorms, being captured at ſea in time of war, conflagration, &c. The premium on houſes, &c. inſured from fire, is from 2*s.* to 5*s.* per cent. according to the buſineſs, ſituation of the premiſes, &c. excluſively of the king's duty of 1*s.* 6*d.* per cent. The inſurance upon ſhips, &c. from one port to another, varies according to the riſk; and, in time of war, eſpecially, is ſometimes very high.

What is the inſurance of goods valued at £900, at 10¾ per cent, from the port of London to Philadelphia in America? *Anſ.* £96 15*s.*

No. 304. BUYING AND SELLING STOCK. Stock, as we have obſerved in queſtion 211, is a general name for the capitals of our trading companies; and the purchaſing and diſpoſing of certain ſums of money in thoſe funds, is now become a general practice.

If £650 ſtock be purchaſed at 90⅜ per cent. and the broker be paid the uſual ſum of ⅛, or 2*s.* 6*d.* per cent. for his trouble, what does the whole amount to? *Anſ.* £588 5*s.*

No. 305.

No. 305. DISCOUNT. Diſcount is an allowance made for the payment of any ſum of money before it becomes due; and is the difference between that ſum due ſome time hence, and its preſent worth.

The preſent worth of any ſum of money, or debt, due ſome time hence, is ſuch a ſum as, if put to intereſt, would, in that time, and at the rate per cent. for which the diſcount is to be made, amount to the ſum or debt then due: *e. g.* £100 preſent money would diſcharge a debt of £105 to be paid a year to come, diſcount being made at 5 per cent.

RULE. As £100 with the addition of the intereſt for the time given, is to that intereſt; ſo is the ſum propoſed in the queſtion, to the diſcount required; which diſcount, ſubtracted from the given ſum, leaves the preſent worth.

What are the diſcount and preſent worth of £573 15*s.* due 3 years hence, at $4\frac{1}{2}$ per cent.? *Anſ.* £68 4*s.* $10\frac{1}{4}$*d.* diſcount—£505 10*s.* $1\frac{3}{4}$*d.* preſent worth.

No. 306. BARTER, STARCH, and CURRANTS. Barter is the exchanging of one commodity for another, and directs traders ſo to proportion their goods, that neither party may ſuſtain loſs.

STARCH is a ſediment found at the bottom of veſſels wherein wheat has been ſteeped in water. The beſt ſort is white, ſoft, and friable; eaſily broken into powder. It is uſed to ſtiffen and clear linen, with ſtone blue, and its powder is employed to powder the hair.

CURRANTS, in commerce, are a ſmall dried grape, properly, ſays Dr. Johnſon, written *corinths*, from Corinth, in Greece, where they were firſt propagated; but this place now produces no more, the plantations having been long neglected. They are, at preſent, brought chiefly from the iſland of Zante*. They do not grow on buſhes, but on vines, like other grapes.

How much ſtarch at $11\frac{1}{2}$*d.* per lb. muſt be given in barter for 20 cwt. of currants, at 8*d.* per lb.? *Anſ.* 3 cwt. 1 qr. 25 lbs. 9 oz. $\frac{2}{46}$.

THE RULE OF THREE INVERSE

TEACHES, by having three numbers given, to find a fourth, that ſhall have the ſame proportion to the ſecond as the third has to the firſt, in an inverted order.

RULE.

State and reduce the terms as in the preceding rule: multiply the firſt and ſecond terms together, and divide their product by the third; the quotient will be the anſwer to the queſtion in the ſame denomination as that in which the ſecond term was left.

* See queſtion 288.

EXAMPLES.

EXAMPLES.

No. 307. If 36 men can perform a piece of work in 12 days, how many days would 27 men require to complete the ſame? *Anſ.* 16 days.

No. 308. SHALLOON. A ſlight woollen ſtuff, ſuppoſed to have received its name from Chalons-ſur-Marne, in the department of Marne, France, where it ſtill continues to be manufactured. What quantity of ſhalloon, 3 quarters of a yard wide, will line 7 $\frac{1}{2}$ yards of cloth that is 1 $\frac{1}{2}$ yard wide? *Anſ.* 15 yards.

No. 309. If 100 workmen can finiſh a piece of work in 24 days, how many are ſufficient to do the ſame in 6 days? *Anſ.* 400.

No. 310. How many yards of linen, ell-wide, are equal to 19 yards of linen which is yard-wide? *Anſ.* 15 yards. 0 qrs. 3 n. $\frac{1}{3}$.

No. 311. If a perſon lend another the ſum of £200 for 12 months, how many months ſhould the latter lend the former £150, to requite the obligation? *Anſ.* 16 months.

No. 312. How many yards of ſtuff, 3 qrs. broad, will line a cloak that is 5$\frac{1}{2}$ yards in length and 1$\frac{1}{4}$ yard broad? *Anſ.* 9 yards, 0 qrs. 2 nails $\frac{2}{3}$.

No. 313. How many yards of matting, 2 feet 6 inches wide, will cover a floor that is 27 feet long and 20 feet broad? *Anſ.* 72 yards.

No. 314. CARPETS. The carpet manufacture is ſaid to have been introduced into France from Perſia, in the reign of Henry IV. The art was brought to London in 1750, by two men who quitted France in diſguſt, and came here to procure employment. This they obtained from the late Mr. Moore*, who, by riſking a very conſiderable expence, ſucceeded in eſtabliſhing this important and uſeful manufacture, and by whoſe ingenuity and perſeverance it has been brought to a very high degree of perfection. We have alſo manufactories for carpets that are much eſteemed at Axminſter, Wilton, Kidderminſter, and other places. How many yards of carpeting, 3 qrs. broad, will cover a room which is 3 yards in length and 4 in breadth? *Anſ.* 16 yards.

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* Mr. Moore built Moore-Place, which now forms the weſtern ſide of Finſbury-Square, where he reſided many years.

THE DOUBLE RULE OF THREE:

OR,

COMPOUND PROPORTION

TEACHES to reſolve ſuch queſtions as require two or more ſtatings by ſimple proportion; and that whether they are direct or inverſe. It is compoſed of five terms, or numbers, which are given to find a ſixth.

RULE. Put the principal cauſe of loſs or gain, increaſe or diminution, in the firſt place; that which denotes time, diſtance of place, &c. in the ſecond; and the number immediately connected with theſe two in the third place. Place the two remaining terms under their like in the ſuppoſition. If the blank fall under the third term, multiply the firſt and ſecond terms together for a diviſor, and the other three for a dividend. But if it fall under the firſt or ſecond term, multiply the third and fourth terms for a diviſor, and the other three for a dividend, and in either caſe the quotient will be the anſwer.

EXAMPLES.

No. 315. CONSTANTIA WINE. This is a very rich ſort of wine, brought from the Cape of Good Hope, a Dutch ſettlement at the ſouthern extremity of Africa, and hence ſometimes called Cape wine. The courſe to the Eaſt-Indies by this Cape was diſcovered in the year 1497, by Vaſco de Gama, a celebrated Portugueſe navigator. Previouſly to this æra the commercial intercourſe between Europe and Aſia was carried on by means of the Mediterranean ſea, the iſthmus of Suez, the Red Sea, &c.

If eight men were to drink 40 pints of Conſtantia in ſeven days, how many gallons would 24 men drink in 28 days, obſerving the ſame proportion. *Anſ.* 60 gallons.

No. 316. DIFFERENT SIZES AND SHAPES OF BOOKS. A folio volume has the pages formed by a ſheet of paper once doubled, making two leaves; a quarto has the ſheet doubled twice, making four leaves; an octavo has the ſheet folded into eight leaves; and a duodecimo into twelve leaves, &c. A pamphlet is a ſmall book; properly a book ſold unbound, only ſtitched. The firſt books were in the form of blocks and tables*; but as pliant materials came to be uſed, it was found more convenient to make them in the form of rolls, which appear to have been in uſe among the Jews, Grecians, and Romans, till ſome centuries after Chriſt. The ſhape which now obtains among us, though little known to the ancients, was invented by Attalus, king of Pergamos, to whom ſome aſcribe the manner of preparing parchment†. It was one Philatius, a learned man at Athens, who firſt taught the uſe of a kind of glue, to faſten the ſeveral leaves together; on which account a ſtatue was erected to him.

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* See queſtion 269. † See queſtion 99.

If 1500 pamphlets, each containing 10 ſheets of paper, conſume 30 reams of paper in printing, how many reams will the ſame number of pamphlets require, each containing 12 ſheets $\frac{1}{2}$? *Anſ.* $37\frac{1}{2}$ reams.

No. 317. CINNAMON. An agreeable aromatic ſpice, growing only, at leaſt till very lately, in the iſland of Ceylon, in the S. W. part of the bay of Bengal, Aſia. The chief virtue of the cinnamon tree is in its bark. Its qualities are to heat and dry, to fortify the ſpirits, and to help digeſtion: but its chief uſe, in medicine, is as an aſtringent; with which intention it is preſcribed in diarrhœas, and weakneſſes of the ſtomach. The whole commerce of cinnamon has been hitherto in the hands of the Dutch, to whom Ceylon appertains; but this valuable ſpice has been lately cultivated in Jamaica with ſuch ſucceſs, that it is expected, that, in a few years, we ſhall be ſupplied with a ſufficient quantity from our Weſt-India iſlands.

If 8 men in 14 days could prepare and plant 112 perches of ground with cinnamon trees, how many men muſt there be to plant 2000 perches in 10 days? *Anſ.* 200 men.

PRACTICE

IS a contraction of the Rule of Three Direct, when the firſt term happens to be an unit, and has its name from its daily uſe among thoſe concerned in trade; being an eaſy and conciſe method of working moſt queſtions that occur in buſineſs. An aliquot part of any number is that which being taken a certain number of times, does exactly make that number.

CASE I.

When the price is leſs than a penny, divide by the aliquot parts of a penny, and then by 12 and by 20, and it will give the anſwer required.

EXAMPLES.

3,456, at $\frac{1}{4}$? *Anſ.* £3 12*s.*
846, at $\frac{3}{4}$? *Anſ.* £2 12*s.* $10\frac{1}{2}d.$
347, at $\frac{1}{2}$? *Anſ.* 14*s.* $5\frac{1}{2}d.$
810, at $\frac{3}{4}$? *Anſ.* £2 10*s.* $7\frac{1}{2}d.$

CASE II.

When the price is an aliquot part of a ſhilling, divide the given number by the aliquot part, and the quotient will be the anſwer in ſhillings, which reduce into pounds as before.

EXAMPLES.

437, at 1*d.*? *Anſ.* £1 16*s.* 5*d.*
5275, at 2*d.*? *Anſ.* £43 19*s.* 2*d.*
6771, at 4*d.*? *Anſ.* £112 17*s.*
352, at $1\frac{1}{2}d.$? *Anſ.* £2 4*s.*
1776, at 3*d*? *Anſ.* £22 4*s.*
899, at 6*d*? *Anſ.* £22 9*s.* 6*d.*

CASE

CASE III.

When the price is pence and farthings, and thoſe not an aliquot part of a ſhilling, divide the given number by ſome aliquot part of a ſhilling, and then conſider what part of the ſaid aliquot part the reſt of the price is, and divide the quotient thereby: add the ſeveral quotients together, and their ſum will be the anſwer in ſhillings, which reduce into pounds.

EXAMPLES.

372, at $1\frac{1}{4}d.$? *Anſ.* £2 14*s.* 3*d.*
827, at $4\frac{1}{2}d.$? *Anſ.* £15 10*s.* $1\frac{1}{2}d.$
2150, at $9\frac{1}{4}d.$? *Anſ.* 87 6*s.* $10\frac{1}{2}d.$
325, at $2\frac{1}{4}d.$? *Anſ.* £3 0*s.* $11\frac{1}{4}d.$
2700, at $7\frac{1}{4}d$? *Anſ.* £81 11*s.* 3*d.*
1720, at $11\frac{1}{2}d.$? *Anſ.* £82 8*s.* 4*d.*

CASE IV.

When the price is any even number of ſhillings under 20, multiply the given number by half of it, doubling the firſt figure to the right-hand for ſhillings, and the other figures are pounds.

When the price is an odd number, multiply the given quantity by the price, and divide by 20, the product will be the anſwer.

EXAMPLES.

2757, at 1*s.*? *Anſ.* £137 17*s.*
3275, at 5*s.*? *Anſ.* £818 15*s.*
372, at 11*s.*? *Anſ.* £204 12*s.*
3142, at 17*s.*? *Anſ.* £2670 14*s.*
2643, at 2*s.*? *Anſ.* £264 6*s.*
872, at 8*s.*? *Anſ.* £348 16*s.*
5271, at 14*s.*? *Anſ.* £3689 14*s.*
264, at 19*s.*? *Anſ.* £250 16*s.*

CASE V.

When the price is ſhillings and pence, which make ſome aliquot part of a pound, divide the given quantity by the aliquot part, and the quotient will be the anſwer in pounds.

EXAMPLES.

7150, at 1*s.* 8*d.*? *Anſ.* £595 16*s.* 8*d.*
3150, at 3*s.* 4*d.*? *Anſ.* £525.
2715, at 2*s.* 6*d.*? *Anſ.* £339 7*s.* 6*d.*
2710, at 6*s.* 8*d.*? *Anſ.* £903 6*s.* 8*d.*

CASE VI.

When the price is ſhillings and pence, which make no aliquot part of a pound, bring out the anſwer the ſhorteſt way that can be done, either by working for an even number of ſhillings and other aliquot parts; or by dividing the price into ſeveral parts, either of the given number, or of one another; but when this method would occaſion much work, it will be better to multiply the quantity by the ſhillings, and take parts for the pence, which added together will give the anſwer in ſhillings.

EXAMPLES.

EXAMPLES.

7211, at 1s. 3d.? *Anſ.* £450 13s. 9d.
801, at 10s. 9d.? *Anſ.* £430 10s. 9d.
807, at 16s. 5d.? *Anſ.* £662 8s. 3d.
2710, at 3s. 2d.? *Anſ.* £429 1s. 8d.
841, at 13s. 2d.? *Anſ.* £553 13s. 2d.
969, at 19s. 11d? *Anſ.* £964 19s. 3d.

CASE VII.

When the price is ſhillings, pence, and farthings, divide the price into aliquot parts of a pound, or of one another, and the ſum of the quotients will be the anſwer.

EXAMPLES.

875, at 1s. 4¾d.? *Anſ.* £61 1s. 4¼d.
3715, at 9s. 4½d.? *Anſ.* £1741 8s. 1½d.
1603, at 16s. 10¼d.? *Anſ.* £1352 10s. 7½d.
7524, at 3s. 5½d.? *Anſ.* £1301 0s. 6d.
2572, at 13s. 7½d.? *Anſ.* £1752 3s. 6d.
2710, at 19s. 2½d.? *Anſ.* £2602 14s. 7d.

CASE VIII.

When the price is pounds, ſhillings, pence, and farthings, multiply the given number by the pounds, and work for the reſt the ſhorteſt way pointed out in the foregoing rules.

EXAMPLES.

137, at £ 1 17s. 6¼d.? *Anſ.* £257 0s. 4¼d.
947, at £ 4 15s. 10¼d.? *Anſ.* £4538 13s. 10¼d.
457, at £14 17s. 9½d.? *Anſ.* £6804 10s. 9½d.

CASE IX.

When the quantity whoſe price is required is of ſeveral denominations, multiply the price by the number in the higheſt denomination, and take the ſame parts of the price for the reſt as they are of an unit in the higheſt number: adding theſe together will give the anſwer.

EXAMPLES.

37 cwt. 2 qrs. 14 lb. at £7 10s. 9d. per cwt. *Anſ.* £283 11s. 11½d.
17 cwt. 1 qr. 12 lb. at £1 19s. 8d. per cwt. *Anſ.* £34 8s. 6d.
23 cwt. 3 qrs. 8 lb. at £3 19s. 11d. per cwt. *Anſ.* £95 3s. 8¼d.
39 cwt. 0 qr. 10 lb. at £1 17s. 10d. per cwt. *Anſ.* £73 18s. 10¼d.

ARITHMETICAL TABLES.

NUMERATION.

9	8	7	6	5	4	3	2	1
C. Millions	X. Millions	Millions	C. Thousands	X. Thousands	Thousands	Hundreds	Tens	Units
187,	432,	965,	315,	123,	648,	987,	312,	894,432.
Quadrillions.			Trillions.		Billions.		Millions.	Units.

Farthings.

Qrs.	D.
4	1
5	1 ¼
6	1 ½
7	1 ¾
8	2
9	2 ¼
10	2 ½
11	2 ¾
12	3
13	3 ¼
14	3 ½
15	3 ¾
16	4
17	4 ¼
18	4 ½
19	4 ¾
20	5
21	5 ¼
22	5 ½
23	5 ¾
24	6

¼ a Farthing
½ two Farthings
¾ three Farthings

Pence.

D.	S.	D.
12	1	0
18	1	6
20	1	8
24	2	0
30	2	6
36	3	0
40	3	4
48	4	0
50	4	2
60	5	0
70	5	10
72	6	0
80	6	8
84	7	0
90	7	6
96	8	0
100	8	4
108	9	0
110	9	2
120	10	0
130	10	10
132	11	0
140	11	8
144	12	0
150	12	6

Shillings.

S.	£	S.
20	1	0
30	1	10
40	2	0
50	2	10
60	3	0
70	3	10
80	4	0
90	4	10
100	5	0
110	5	10
120	6	0
130	6	10
140	7	0
150	7	10
160	8	0
170	8	10
180	9	0
190	9	10
200	10	0

L. Libræ Pounds
S. Solidi Shillings
D. Denarii Pence
Qrs. Quadrantes Frs.

MULTIPLICATION.

MULTIPLICATION.

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

OBSERVATIONS

ON

WEIGHTS AND MEASURES.

BY the 27th chapter of MAGNA CHARTA, the weights are to be the ſame all over England; but for different commodities there are two different ſorts, viz. *Troy Weight*, and *Avoirdupois Weight*. The origin, from which they are both derived, is the grain of wheat, gathered in the middle of the ear: 32 of theſe well dried made one penny-weight, 20 penny weights 1 oz. and 12 oz. 1 lb. troy. Stat. 51. Hen. III. 31 Edw. I. 12. Hen. VII.

A learned writer has ſhewn, that by the laws of aſſize, from William the Norman to the reign of Henry VII. the legal pound weight contained a pound of 12 ounces raiſed from 32 grains of wheat; and the legal gallon meaſure invariably contained 8 of theſe pounds of wheat; and eight ſuch buſhels made a quarter.

Henry

Henry VII. altered the old Engliſh weight, and introduced a pound, under the name of Troy, which exceeded the old Saxon pound by 3-4ths of an ounce. This troy pound, now in uſe, conſiſting of 12 ounces, contains 5760 troy grains; and the ounce therefore contains 480.

Although formerly 32 grains made a penny-weight, it has in later times been thought ſufficient to divide the penny-weight into 24 equal parts called grains, being the leaſt weights now in uſe.

The firſt ſtatute, which directs the uſe of the *avoirdupois weight*, is that of 24 Henry VIII. which plainly implies that it was no legal weight till that gave it a legal ſanction; and the particular uſe, to which the ſaid weight is thus directed, is ſimply for weighing butcher's meat in the market. How or when it came into private uſe is not certainly known. The act which enacted that beef, pork, mutton, and veal, ſhould be ſold by avoirdupois weight, paſſed A. D. 1533.

Rapin, vol. vi. *p.* 368.

The moneyers, jewellers, &c. have a particular claſs of weights, for gold, and precious ſtones, viz. carat, and grain; and for ſilver, the penny-weight and grain.

Cyclopædia.

MEASURES. Meaſure in a legal, commercial, and popular ſenſe, denotes a certain quantity or proportion of any thing, bought, ſold, valued, or the like.

The regulation of WEIGHTS and MEASURES ought to be univerſally the ſame throughout the kingdom; and ſhould, therefore, be reduced to ſome fixed rule or ſtandard; the prerogative of fixing which was veſted, by our ancient law, in the crown. This ſtandard was originally kept at Wincheſter: and we find, in the laws of king Edgar, cap. viii. nearly a century before the conqueſt, an injunction, that the one meaſure, which was kept at Wincheſter, ſhould be obſerved throughout the realm. With reſpect to meaſures of length, our ancient hiſtorians inform us, that a new ſtandard of longitudinal meaſure was aſcertained by Henry I. who commanded that the ulna, or ancient ell, which anſwers to the modern yard, ſhould be made of the exact length of his own arm: and one ſtandard of meaſures of length being once gained, all others are eaſily derived from hence; thoſe of greater length by multiplying, thoſe of leſs by ſubdividing the original ſtandard. Upon theſe principles the ſtandards were firſt made; which, being originally ſo fixed by the crown, their ſubſequent regulations have been generally made by the king in parliament. Thus, under Richard I. in his parliament holden at Weſtminſter, A. D. 1197, it was ordained, that there ſhould be only one weight and one meaſure throughout the kingdom, and that the cuſtody of the aſſize, or ſtandard of weights and meaſures, ſhould be committed to certain perſons, in every city and borough. In king John's time, this ordinance was frequently diſpenſed with for money; which occaſioned a proviſion to be made for enforcing it, in the great charters of king John and his ſon.

The

The ſtatute of Magna Charta, cap. 25, ordains, that there ſhall be but one meaſure throughout England, according to the ſtandard of the Exchequer. By 17 Car. I. cap. 19, there is to be one weight and meaſure, and one yard; and whoſoever ſhall keep any other weight or meaſure, whereby any thing is bought or ſold, ſhall forfeit for every offence 5s. And by 22 Car. II. cap. 8, water meaſure, as to corn and grain, or ſalt, is declared to be within the ſtatute 17 Car. I. And if any ſell grain or ſalt, &c. by any other buſhel, or meaſure, than what is agreeable to the ſtandard in the Exchequer, commonly called Wincheſter meaſure, he ſhall forfeit 40s. &c. Notwithſtanding theſe ſtatutes, in many parts of the kingdom there are different meaſures of corn and grain; and the buſhel in one place is larger than in another: but the lawfulneſs of it is not well to be accounted for, ſince cuſtom or preſcription is not allowed to be good againſt a ſtatute. Selling by falſe meaſure being an offence by common law, may be puniſhed by fine, &c. upon an indictment at common law, as well as by ſtatute.

Meaſures are various, according to the various kinds and dimenſions of the things meaſured. Hence ariſe

Meaſures, lineal or longitudinal, for lines or lengths; meaſures, ſquare, for areas or ſuperfices; and meaſures, ſolid or cubic, for bodies and their capacities. All which again are very different in different countries, and in different ages, and even many of them for different commodities.

Cyclopædia.

Scales and meaſures are ſaid to have been invented by Phidon 869 years before the birth of our Saviour.

Chron. Tab. Ency. Brit.

Phidon was king of Argos, an ancient kingdom in Greece, and brother to Caranus the firſt king of the Macedonians. An author, cited by Euſebius, attributes to this Phidon the invention of weights and meaſures.

Dict. de Moreri.

TABLES

TABLES of WEIGHTS and MEASURES.

TROY Weight.

24 grains make	1 penny weight
20 penny weights	1 ounce
12 ounces	1 pound

By this weight are weighed jewels, gold, ſilver, ſilk, and all liquors.

We may here obſerve, that a troy pound of gold is worth 46 l. 14s. 6d. for 44 guineas are coined from each pound of the mint. A troy ounce is worth 3l. 17s. 10d½. in coinage ſtandard.

The troy pound of ſilver, coinage ſtandard, is worth 3l. 2s. an ounce is worth 5s. 2d. a penny weight is worth 3d. and 4-10th parts of a farthing; and a grain is worth about half a farthing.

Cyclopædia.

N. B. 14 ounces, 11 penny weights, and 16 grains troy, are equal to a pound avoirdupois; or the proportion of a pound troy to a pound avoirdupois is as 14 to 17; the former pound containing 5760 grains, and the latter 7000.

AVOIRDUPOIS Weight.

16 drams make	1 ounce
16 ounces	1 pound
28 pounds	1 quarter
4 quarters	1 cwt.
20 hundred weight	1 ton

By this weight are weighed all coarſe and heavy goods, as pitch, tar, roſin, tallow, &c. copper, tin, &c. fleſh, butter, &c. and alſo bread by 31 Geo. II. and all grocery wares: and Dr. Ward ſuppoſes, that, from this uſe of it, it was firſt introduced; as it was cuſtomary to allow larger weight of ſuch goods than the law had expreſsly enjoined; and this, he ſays, happened to be about a fifth part more.

N. B. An avoirdupois pound contains 1 lb. 2 oz. 11 dwts. 16 grs. troy.

APOTHECARIES Weight.

20 grains make	1 ſcruple
3 ſcruples	1 dram
8 drams	1 ounce
12 ounces	1 pound

Apothecaries uſe this weight in compounding their medicines, but they buy their drugs by avoirdupois weight.

The pound and ounce of the apothecaries, and the pound and ounce troy, are the ſame, only differently divided and ſubdivided.

CLOTH Meaſure.

2¼ inches make	1 nail
4 nails	1 quarter
4 quarters	1 yard
3 quarters	1 ell Flemiſh
5 quarters	1 ell Engliſh
6 quarters	1 ell French

The yard is uſed in meaſuring all ſorts of woollen cloths, wrought ſilks, moſt linens, tapes, &c. The ell Engliſh is employed in meaſuring ſome particular linens, called hollands; and the ell Flemiſh in meaſuring tapeſtry.

LONG Meaſure.

3 barley corns in length make	1 inch
4 inches	1 hand's-breadth
12 inches	1 foot
3 feet	1 yard
6 feet	1 fathom
5½ yards	1 pole
40 poles	1 furlong
8 furlongs	1 mile
3 miles	1 league
60 geographical miles, or 69½ ſtatute miles	1 degree
360 degrees the circumference of the earth	

Long meaſure is uſed to meaſure the diſtance of places, or any thing elſe where length is conſidered without regard to breadth.

CUBIC

CUBIC Measure.

1728 cubic inches make	1 cubic foot
27 cubic feet	1 cubic yard

SQUARE or LAND Measure.

144 square inches make	1 square foot
9 square feet	1 square yard
30¼ square yards	1 square pole, or perch.
40 square poles	1 square rood
4 square roods	1 square acre

Land measure is used to measure ground in order to find the contents in acres, &c.

DRY Measure.

2 pints make	1 quart
2 quarts	1 pottle
2 pottles	1 gallon
2 gallons	1 peck
4 pecks	1 bushel
8 bushels	1 quarter
5 quarters	1 wey or load
4 bushels	1 coomb
5 pecks (water measure)	1 bushel
10 coombs	1 wey
2 weys	1 last
36 bushels	1 chaldron

By this measure, coals, salt, lead-ore, oysters, corn, seeds, fruits, roots, and other dry goods are measured.

WINE Measure.

2 pints make	1 quart
4 quarts	1 gallon
10 gallons	1 anker of brandy
42 gallons	1 tierce
63 gallons	1 hogshead
84 gallons	1 puncheon
2 hogsheads	1 pipe or butt
2 pipes	1 tun

By this measure, spirits, perry, cyder, mead, vinegar, oil, &c. are measured. Milk is also retailed by this standard, not by law, but custom only.

ALE and BEER Measure.

2 pints make	1 quart
4 quarts	1 gallon
8 gallons	1 firkin of ale
9 gallons	1 firkin of beer
2 firkins	1 kilderkin
2 kilderkins	1 barrel
3 kilderkins	1 hogshead
3 barrels	1 butt

N. B. 48 gallons of ale, or 54 gallons of beer, make an hogshead.

TIME.

60 seconds make	1 minute
60 minutes	1 hour
24 hours	1 day
7 days	1 week
4 weeks	1 month
52 weeks, 1 day	1 year
12 calendar months	1 year
13 lunar months, 1 day	1 year

N. B. The calendar months, by which we reckon time, are unequally of 30 or 31 days, excepting February, which is of 28, and in leap-year of 29 days.

The addition of a day in the month of February is made every fourth year, to recover the six hours which the sun spends in his course each year, beyond the 365 days ordinarily allowed for it.

Cyclop. Art. Biſſextile.

The year, in which the above-mentioned intercalation takes place, is called leap-year, because a day of the week is missed; as, if on one year the first of March be on Monday, it will on the next year be on Tuesday, but on *leap-year* it will *leap* to Wednesday.

A lunar month contains 28 days, being the time which the moon takes in revolving round the earth.

A solar month is the space of time in which the sun passes through a sign of the zodiack.

A solar year, according to the usual computation, contains 365 days 6 hours: but the exact time, in which the earth performs its annual revolution round the sun, is 365 days, 5 hours, 48 minutes, and 45½ seconds.

WOOL Weight.

7 lbs. make	1 clove
2 cloves	1 stone
2 stones	1 tod
6½ tods	1 wey
2 weys	1 sack
12 sacks	1 last

BREAD.

	lb.	oz.	dr.
A peck loaf weighs	17	6	1
A half peck loaf	8	11	0
A quartern loaf	4	5	8

N. B. Avoirdupois.

PRAC-

PRACTICE TABLE.

The aliquot Parts of a Pound.

s.	d.	
10	0 are the	half
6	8	third
5	0	fourth
4	0	fifth
3	4	sixth
2	6	eighth
2	0	tenth
1	8	twelfth

The aliquot Parts of a Shilling.

d.		
6	are the	half
4		third
3		fourth
2		sixth
1½		eighth
1	is the	twelfth

The aliquot Parts of a Ton.

cwt.		
10	are the	half
5		fourth
4		fifth
2½		eighth
2		tenth.

The aliquot Parts of an Hundred.

qrs. lbs.		
2 or 56	are the	half
1 or 28		fourth
14		eighth

The aliquot Parts of a Quarter.

lbs.		
14	are the	half
7		fourth
4		ſeventh
3½		eighth

N. B. Aliquot parts are parts of any number or quantity, ſuch as will exactly meaſure it without any remainder: as 3 is an aliquot part of 12, becauſe, being taken 4 times, it will juſt meaſure it.

JOHNSON's *Dict.*

The Weight of Current Coins as coined.

GOLD.

	dwts.	grs.
A guinea	5	9½
Half a guinea	2	16¼
Quarter ditto	1	8¼

The ſtandard for gold coin is 22 carats of fine gold and 2 carats of copper melted together.

SILVER.

	dwts.	grs.
A crown	19	8½
Half ditto	9	16¼
A ſhilling	3	21
A ſixpence	1	22½

The ſtandard for ſilver is 11 ounces 2 pennyweights of fine ſilver and 18 pennyweights of copper.

WEIGHTS CURRENT.

A guinea	5	8
Half a guinea	2	16
Quarter ditto	1	8

A TABLE.

Of the cuſtomary Weight of Goods.

	lbs.
A firkin of butter is	56
A firkin of ſoap	64
A barrel of pot aſhes	200
A barrel of anchovies	30
A barrel of candles	120
A barrel of ſoap	256
A barrel of butter	224
A fother of lead is 19 cwt. and a half	
A ſtone of iron	14
A ſtone of butcher's meat	8
A gallon of train oil	7½
A faggot of ſteel	120
A ſtone of glaſs	5
A ſeam of glaſs is 24 ſtone, or	120

HAY.

56 lbs. of old hay } make a truſs
60 lbs. of new hay }
36 truſſes make a load

COAL Meaſure.

4	Pecks make	1 buſhel
9	buſhels	1 vat or ſtrike
36	buſhels	1 chaldron
21	chaldrons	1 ſcore

The NUMBER of DAYS in each MONTH, ſays Dr. Watts*, are engraven on the memory of thouſands by theſe four lines:

Thirty days have September,
June *and* April *and* November;
February *twenty-eight alone*,
And all the reſt have thirty-one.

* Improvement of the Mind.

BRITISH MUSEUM 8 DE 74

FINIS.

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OF

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Occaſionally treated of, or mentioned, in the

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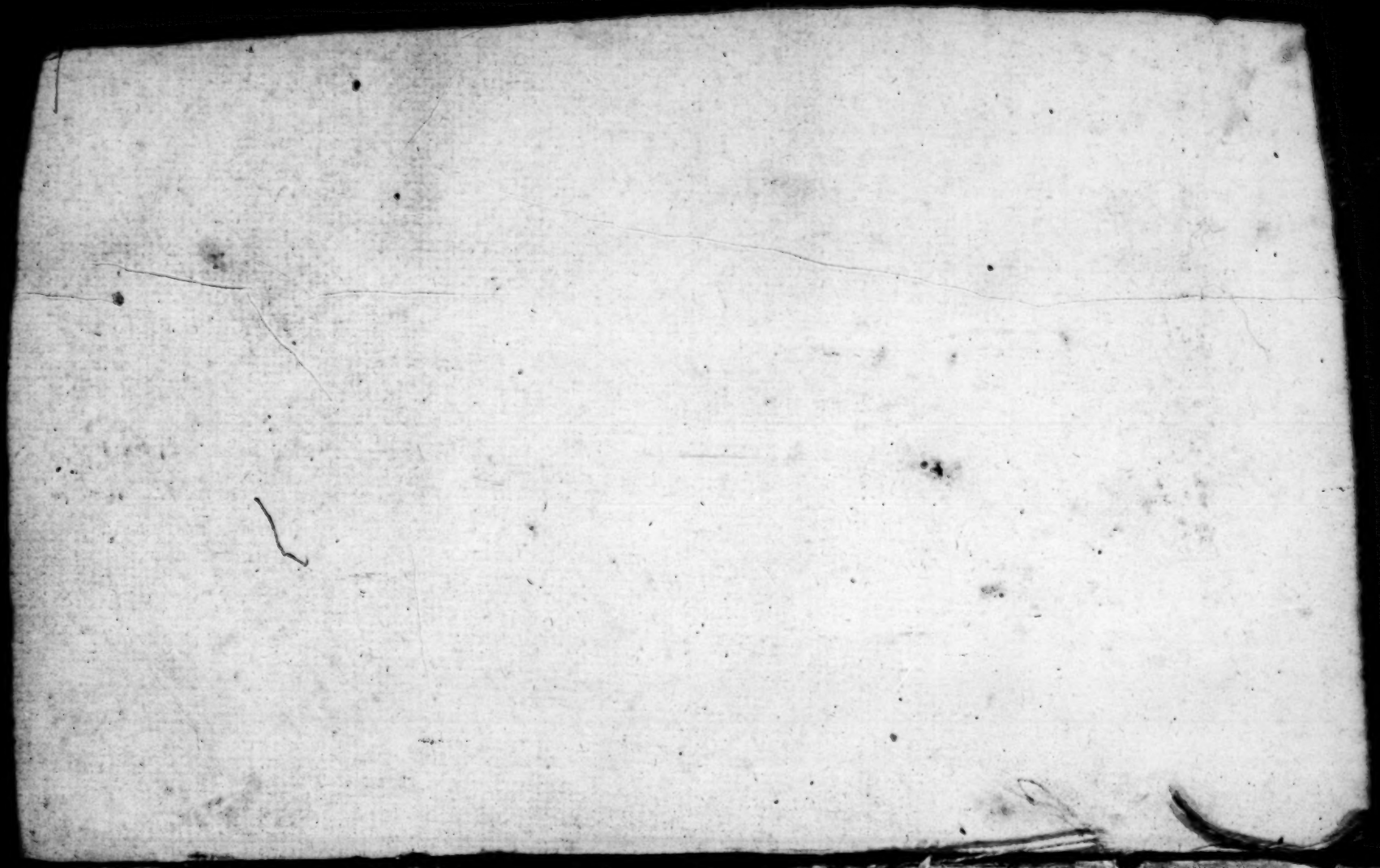
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